REVISION HISTORY BG-3R CHASSIS

MODEL

KV- XA29M67
KV- XA29M97
KV-XA34M67
KV-XA34M97

PART NO.: 9-872-253-01

NO	DATE	DESCRIPTION OF REVISION

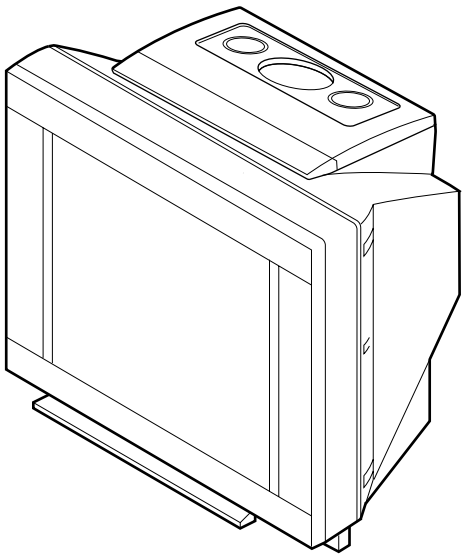
Self Diagnosis
Supported model

SERVICE MANUAL

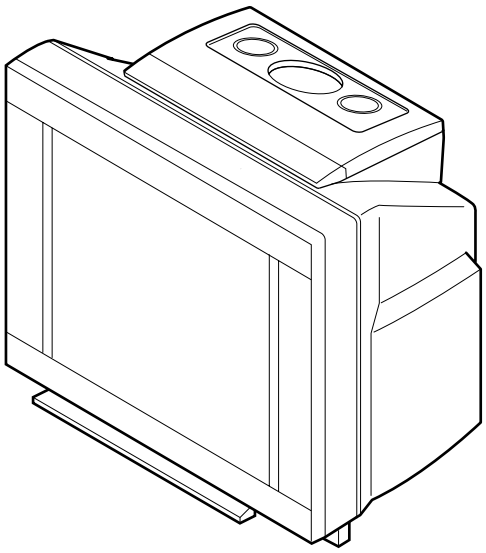
BG-3R CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV- XA29M67	RM-953	India	SCC-U60E-A
KV- XA29M97	RM-953	India	SCC-U60E-A
KV-XA34M67	RM-953	India	SCC-U60D-A
KV-XA34M97	RM-953	India	SCC-U60D-A

MODEL	COMMANDER	DEST.	CHASSIS NO.



KV-XA34M67/XA34M97



KV-XA29M67/XA29M97

TRINITRON ® COLOR TV

SONY ®

SPECIFICATIONS

			Note
Power requirements	110-240 V AC, 50/60 Hz		
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G, I, D/K, M		
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43		
Stereo/Bilingual system	NICAM, A2 German		
Channel coverage			
B/G	VHF: E2 to E12 / UHF: E21 to E69 / CATV: S01 to S03, S1 to S41		
I	UHF: B21 to B68 / CATV: S01 to S03, S1 to S41		
D/K	VHF: C1 to C12, R1 to R12 / UHF: C13 to C57, R21 to R60 CATV: S01 to S03, S1 to S41, Z1 to Z39		
M	VHF: A2 to A13 / UHF: A14 to A79 / CATV: A-8 to A-2, A to W+4, W+6 to W+84		
(Antenna)	75-ohm external terminal		
Audio output (Speaker)	6W + 6W		
3D Woofer	15W		
Number of terminal			
Video	Input: 4* Output: 1	Phono jacks; 1 V_{P-P}, 75 ohms	* Three input lines available
Audio	Input: 4* Output: 1	Phono jacks; 500 mVrms	* Three input lines available
S Video	Input: 2	Y : 1 Vp-p, 75 ohms, unbalanced, sync negative C :0.286 Vp-p, 75 ohms	
Component Video (DVD) IN	Input: 1	Phono jacks Y : 1 Vp-p, 75 ohms, sync negative C_B : 0.7 Vp-p, 75 ohms C_R : 0.7 Vp-p, 75 ohms Audio : 500 mVrms	
(Headphones)	Output: 1	Stereo minijack	
Picture tube	29 in.	34 in.	
Tube size (cm)	72	86	Measured diagonally
Screen size (cm)	68	80	Measured diagonally
Dimension (w/h/d, mm)	722 x 576 x 516	895 x 674 x 590	
Mass (kg)	51	78	

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

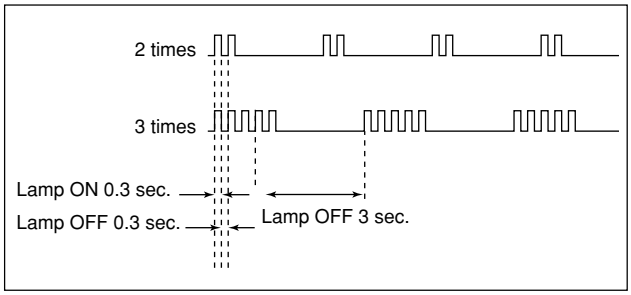
When an errors occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F4601 (F)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) or overvoltage (OVP) • Vertical deflection stopped • Horizontal deflection overdrive	2 times	002:000 or 002:001~255 003:001~255 004:001~255 at the same time	• H.OUT Q511 is shorted. (A board) • Q701, Q702, Q703 is shorted (C6 board) • -13V is not supplied. (A board) • IC 503 faulty (A board)	• Power does not come on. • Load on power line is shorted. • Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~225	• G2 is improperly adjusted. (Note 2) • CRT problem. • R(Q703), G(Q702) or B(Q701) out is faulty (C6 board) • IC301 is faulty. (A board) • No connection A board to C6 board.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Micro reset	—	101:00 or 101:001~225	• Discharge CRT (C6 Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

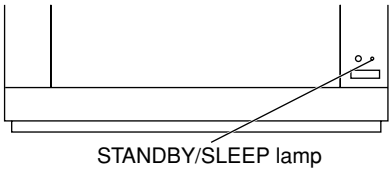
Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.
*R(Q703), G(Q702) or B(Q701) out is faulty (C6 board).

2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT



Diagnostic Item	Flash Count*
+B overcurrent/overvoltage Vertical deflection stopped	2 times
White balance failure	5 times

* One flash count is not used for self-diagnostic.



3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

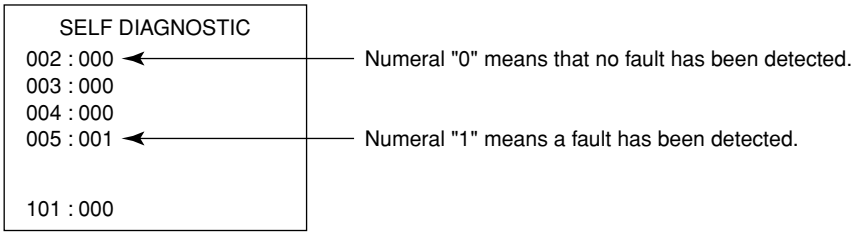
4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

[To Bring Up Screen Test]
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume - ➡ Power ON
⇧
Note that this differs from entering the service mode (mode volume +).

Self-Diagnosis screen display


SELF DIAGNOSTIC
002 : 000
003 : 000
004 : 000
005 : 001
101 : 000
Numeral "0" means that no fault has been detected.
Numeral "1" means a fault has been detected.

5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

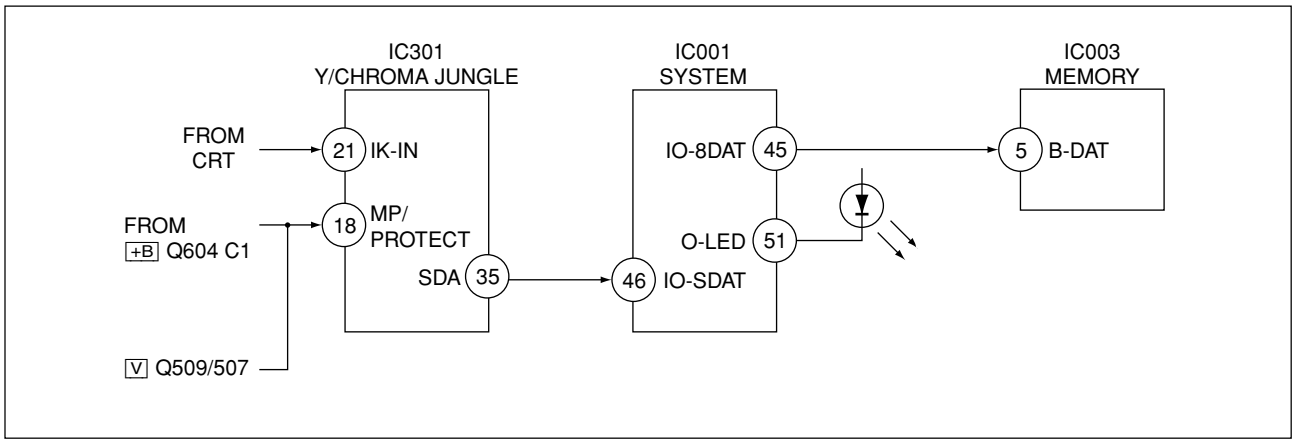
Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]
To clear the result display to “0”, press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel [8] ➡ 0

[Quitting Self-diagnostic screen]
To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

6. SELF-DIAGNOSTIC CIRCUIT



+B overcurrent (OCP)	Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.
Vertical deflection stopped	Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply.
Vertical deflection overcurrent	Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001.
White balance failure	If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture. * (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

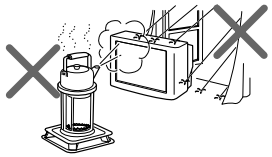
The operating instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

WARNING

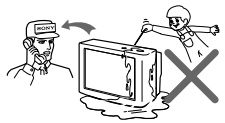
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC.

For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

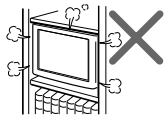
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



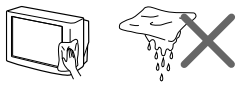
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



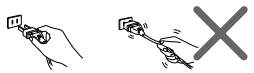
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.

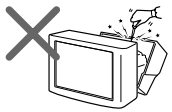


Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not scratch the picture tube.

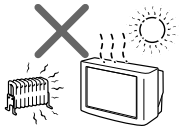


Pull the power cord out by the plug. Do not pull the power cord itself. Disconnect the TV before moving it or if you are not going to use it for several days.

Do not plug in too many appliances to the same power socket. Do not damage the power cord.



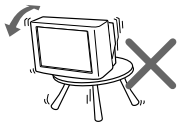
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



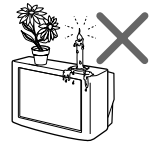
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.

SECTION 1
GENERAL

WARNING (continued)



Do not install the TV in an unstable position. Use a proper TV stand.



Do not place any objects on the TV.

Getting Started

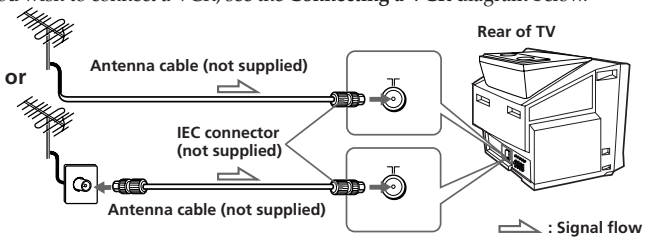
CAUTION

- Do not connect the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid that leaks from the batteries touches you, immediately wash it away with water.

Step 1

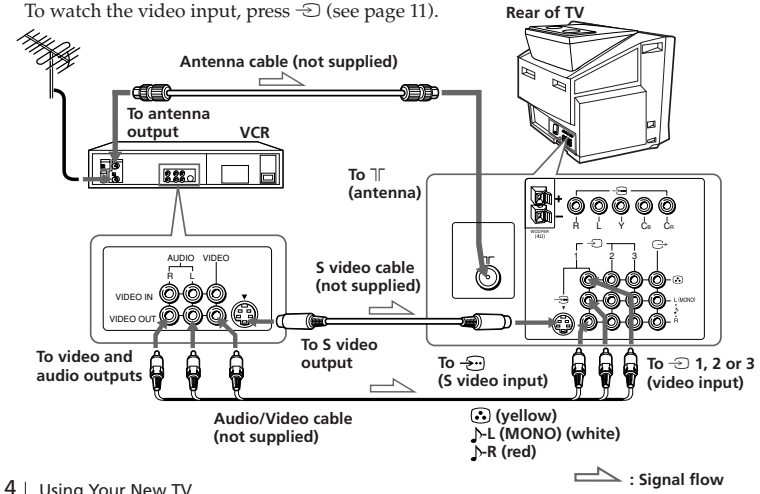
Connect the antenna

If you wish to connect a VCR, see the **Connecting a VCR** diagram below.



Connecting a VCR

To watch the video input, press ⊖ (see page 11).

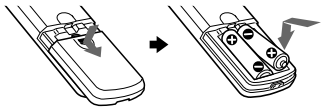


Notes

- If you connect a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to ♪-L (MONO) (the white jack).
- If you connect a VCR to the ⊤ (antenna) terminal, preset the signal output from the VCR to the program number 0 on the TV.
- If both ⊖ (S video input) and ⊖ 1 (video input) at the rear of your TV are input at the same time, the ⊖ (S video input) is automatically selected. To view the video input to ⊖ 1 (video input), disconnect the S video cable.
- Do not connect video equipment to ⊖ 3 (video input) at the front and the rear of your TV at the same time; otherwise the picture will not be displayed properly on the screen.
- When no signal is input from the connected video equipment, the TV screen becomes blue.

Step 2

Insert the batteries into the remote



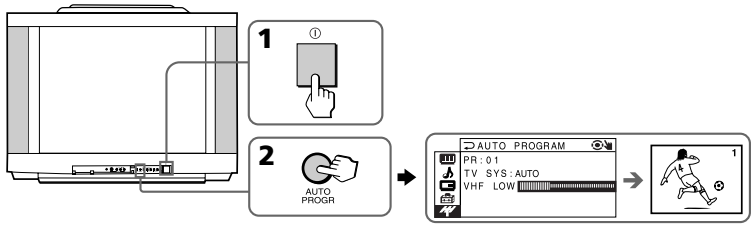
Note

- Do not use old batteries nor use different types of batteries together.

Step 3

Preset the channels automatically

Front of TV

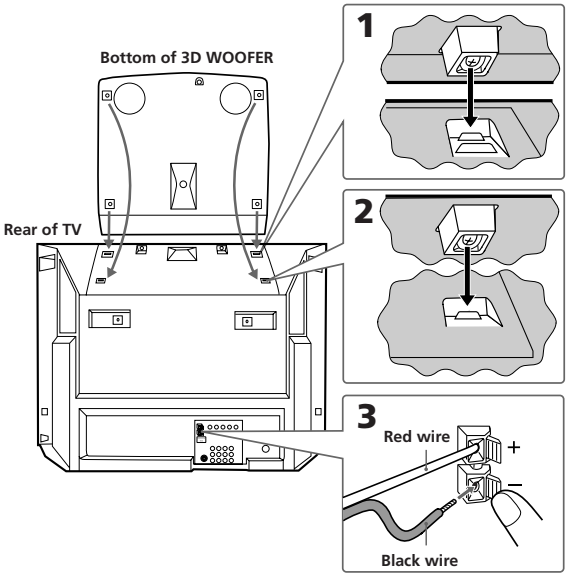


Tips

- If you want to stop the automatic channel presetting, press MENU.
- If your TV has preset an unwanted channel or cannot preset a particular channel, then preset your TV manually (see page 31).

Connecting the 3D WOOFER

You can enjoy high quality sound by connecting the 3D WOOFER.



1 Place the foot at the front of the 3D WOOFER into the footholds on the top of your TV.

2 Place the foot at the rear of the 3D WOOFER into the footholds at the rear of your TV.

3 Connect the wires to the 3D WOOFER (4Ω) terminals at the rear of your TV. The red wire should be connected to the ⊕ red terminal and the black wire to the ⊖ black terminal.

Notes

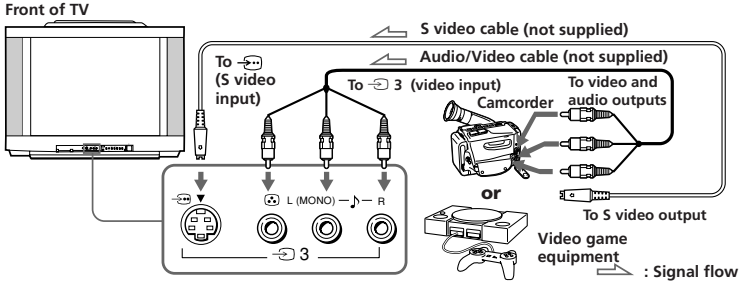
- Connect only the supplied 3D WOOFER; otherwise your TV may malfunction.
- Unplug your TV from the wall outlet when connecting the 3D WOOFER.
- To prevent a malfunction caused by a short circuit of the terminals, make sure that none of the 3D WOOFER wire strands stick out, making contact with it's neighbouring 3D WOOFER terminal.

Connecting optional components

You can connect optional audio/video components, such as a VCR, multi disc player, DVD, camcorder, video game or stereo system.

To watch the video input of the connected equipment, press ⊖ (see page 11).

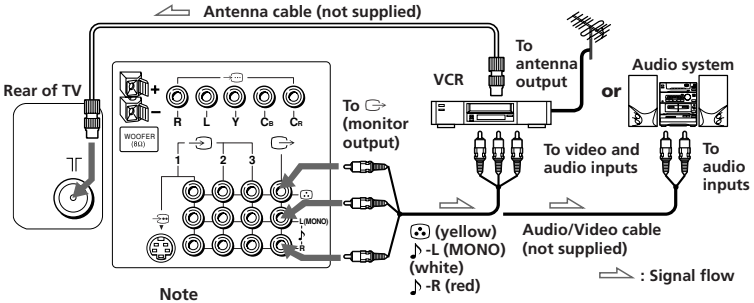
Connecting a camcorder/video game equipment using the ⊖ (video input) jacks



Notes

- You can also connect video equipment to the ⊖ 1, 2 or 3 (video input) jacks at the rear of your TV.
- If both ⊖ (S video input) and ⊖ 3 (video input) at the front of your TV are input at the same time, the ⊖ (S video input) is automatically selected. To view the video input to ⊖ 3 (video input), disconnect the S video cable.
- Do not connect video equipment to the ⊖ 3 (video input) jacks at the front and the rear of your TV at the same time; otherwise the picture will not be displayed properly on the screen.

Connecting audio/video equipment using the ⊕ (monitor output) jacks



Note

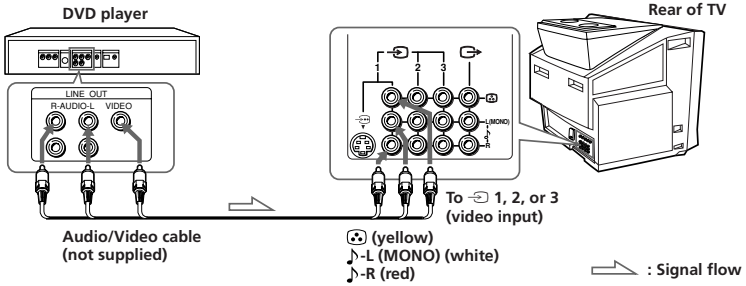
- If you select "DVD" on your TV screen, no signal will be output at the ⊕ (monitor output) jacks (see page 11).

continued

KV-XA29M67/XA29M97/XA34M67/XA34M97
RM-953

Connecting optional components (contiuned)

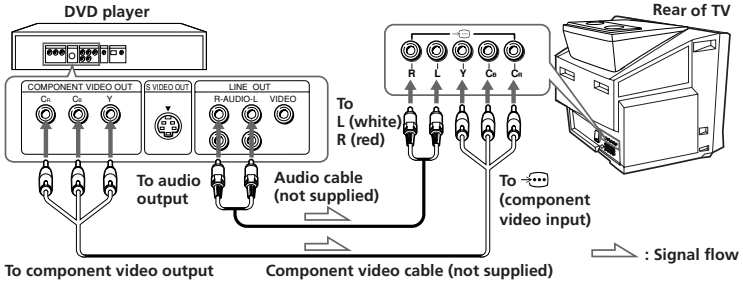
Connecting a DVD player using the (video input) jacks



Connecting a DVD player using the (component video input) jacks

1 Connect R and L under (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, C_B, and C_R under (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.



Notes

- If your DVD player can output interlace and progressive mode signals, select the interlace output when connecting to (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C_B (blue)	C_b, B-Y or P_B
C_R (red)	C_r, R-Y or P_R

- Since the high quality pictures on a DVD disc contain a lot of information, picture noise may appear. In this case, adjust the sharpness ("SHARP") in the "ADJUST" menu of the "PICTURE MODE" menu (see page 24).

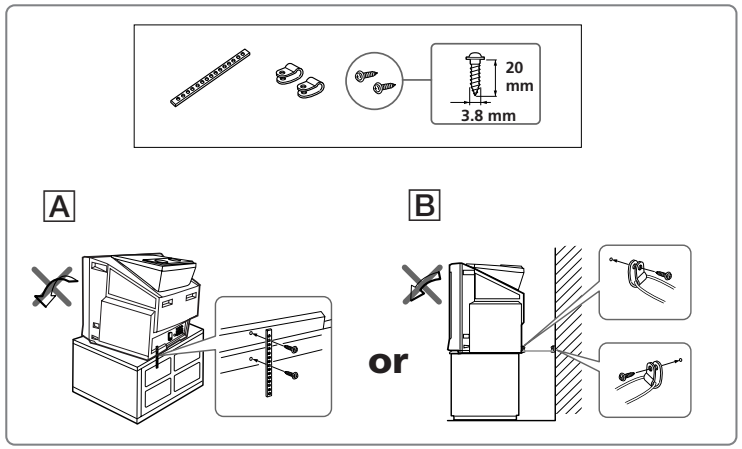
Securing the TV

To prevent the TV from falling, secure the TV using one of the following methods:

A With the supplied screws, attach the band to the TV stand and to the rear of the TV using the provided hole.

or

B Put the cord or chain through the clamps to secure the TV against a wall or pillar.

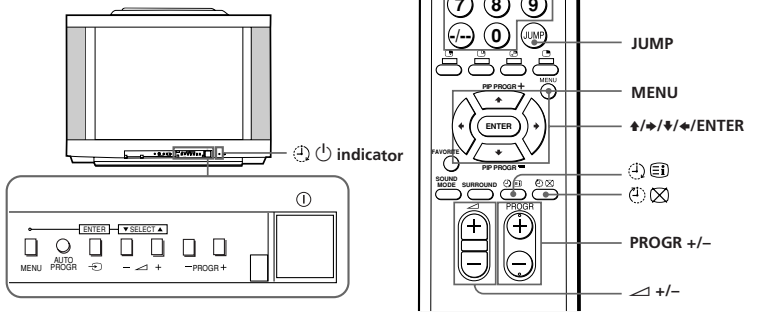


Note

- Use only the supplied screws. Use of other screws may damage the TV.

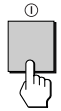
Watching the TV

This section explains various functions and operations available while watching the TV. Most operations can be done using the remote.



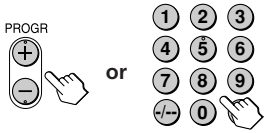
1 Press ⏀ to turn on the TV.

When the TV is in the standby mode (the ⏻ indicator on the TV is lit red), press I/⏻ on the remote or PROGR +/– on the TV.



2 Press PROGR +/– or number buttons to select the program number.

For double digit numbers, press -/--, then the number (e.g., for 25, press -/--, then 2 and 5).



To select a program number quickly

(1) Press and hold PROGR +/–.
(2) Release PROGR +/– when the desired program number appears.

Note

- When you select a program number quickly, the picture may be disrupted. This does not indicate a malfunction.

Additional tasks

To	Press
Turn off temporarily	I/⏻. The ⏻ indicator on the TV lights up red.
Turn off completely	⏀ on the TV.
Adjust the volume	+/–.
Mute the sound	.
Watch the video input (VCR, camcorder, etc.)	to select "VIDEO 1", "VIDEO 2" , "VIDEO 3"or "DVD". To return to the TV program, press (or on the TV).
Jump back to the previous program number	JUMP.
Display the on-screen information*	.

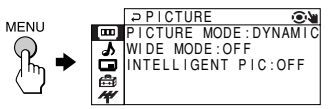
* The picture, sound, and either the program number or video input are displayed. The on-screen display for the picture and sound information disappears after about three seconds.

Changing the menu language

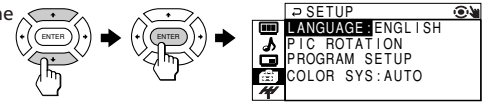
You can change the menu language as well as the on-screen language.

For details on how to use the menu, see "Introducing the menu system" on page 20.

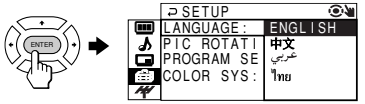
1 Press MENU.



2 Press ↑ or ↓ to select the "SETUP" icon ( ), then press ENTER.

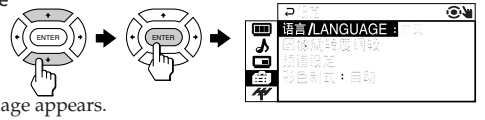


3 Make sure "LANGUAGE" is selected, then press ENTER.



4 Press ↑ or ↓ to select the desired language (e.g., "中文"), then press ENTER.

The selected menu language appears.



To return to the normal screen

Press MENU.

continued

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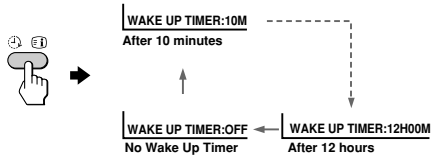
Setting the Wake Up timer

1 Press ◴ until the desired period of time appears.

The Wake Up timer starts immediately after you have set it.



2 Select the program number or video input you want to display when you wake up.

3 Press ⏻ or set the Sleep timer if you want the TV to turn off automatically.

The ◴ indicator lights up orange.

To cancel the Wake Up timer

Press ◴ until "WAKE UP TIMER: OFF" appears or turn off the TV's main power.

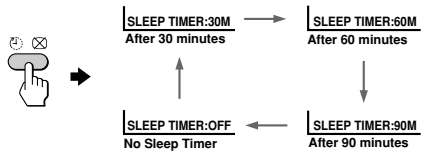
Note

- If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into the standby mode. To continue watching the TV, press any button or control on the TV or the remote.

Setting the Sleep timer

Press ◴ until the desired period of time appears.

The Sleep timer starts immediately after you have set it.

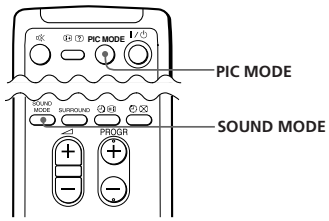


To cancel the Sleep timer

Press ◴ until "SLEEP TIMER: OFF" appears or turn the TV off.

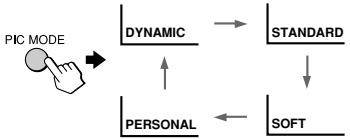
Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in "PERSONAL" option.



Selecting the picture mode

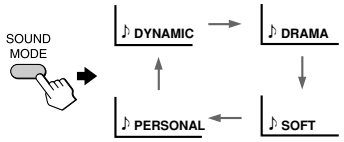
Press PIC MODE repeatedly until you get the desired picture mode.



Select	To
"DYNAMIC"	view high contrast pictures.
"STANDARD"	view normal contrast pictures.
"SOFT"	view mild pictures.
"PERSONAL"	receive the last adjusted picture setting from the "ADJUST" option in the "PICTURE" menu (see page 23).

Selecting the sound mode

Press SOUND MODE repeatedly until you get the desired sound mode.



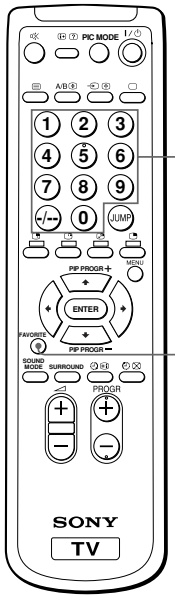
Select	To
"DYNAMIC"	listen to dynamic and clear sound that emphasizes the low and high tones.
"DRAMA"	listen to sound that emphasizes voice and high tones.
"SOFT"	listen to soft sound.
"PERSONAL"	receive the last adjusted sound setting from the "ADJUST" option in the "SOUND" menu (see page 25).

Tip

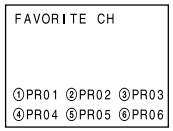
- You can also set the picture and sound modes using the menu (see **Changing the "PICTURE" setting** on page 23 and **Changing the "SOUND" setting** on page 25).

Viewing your favorite channels

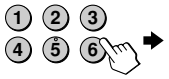
You can display and select six of your favorite channels directly from your TV screen.



1 Press FAVORITE.



2 Press the number button from 1 to 6 to select the desired favorite channel.



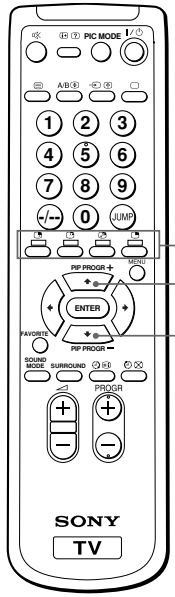
Tip

- To program your favorite channels, see **Adjusting each program number settings (PROGRAM SETUP)** on page 29.

Watching two programs at the same time

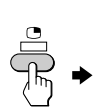
— PIP

With the Picture-in-Picture (PIP) feature, you can display a sub screen within the main picture of different TV programs or video inputs.



Displaying a sub screen

Press .



To return to the normal screen

Press (when displaying the sub screen).

continued

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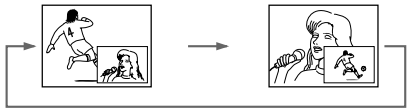
Watching two programs at the same time (continued)

Additional PIP tasks

To	Press
change a TV program in the sub screen	▲ (PIP PROGR +) or ▼ (PIP PROGR –).
select a video input in the sub screen	.
swap pictures between the main and sub screens	. 
freeze the sub screen	. To unfreeze the screen, press the button again.

Tips

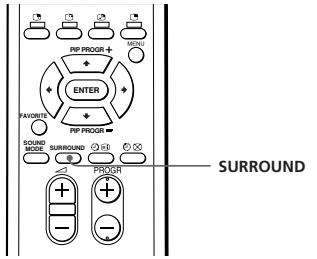
- You can also display the sub screen and exchange pictures between the main and sub screens using the menu (see **Changing the "PIP" setting** on page 27).
- You can change the position of the sub screen (see **Changing the "PIP" setting** on page 27).

Notes

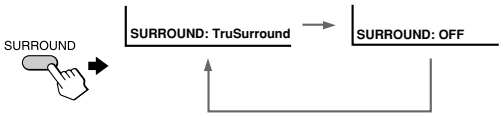
- When you display a video input on the sub screen at a faster/slower speed, the picture may be disrupted depending on the VCR type.
- If you display different color systems on the sub screen, the size of the sub screen may be different and the picture may be disrupted. This does not indicate a malfunction of the TV.

Listening with surround sound

The surround feature enables you to enjoy the sound effects of a concert hall or movie theater.



Press SURROUND repeatedly until you receive the desired surround sound.



Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"OFF"	turn off the surround sound.

Tip

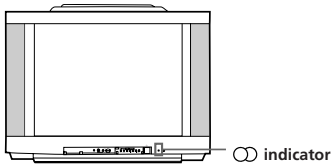
- You can also select the surround option using the menu (see **Changing the "SOUND" setting** on page 25).

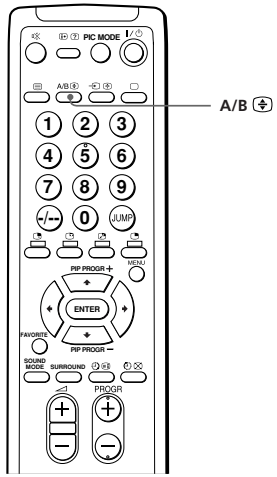
The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems.

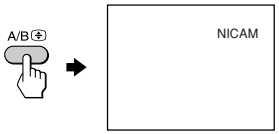




Press A/B repeatedly until you receive the sound you want.

The on screen display changes to show the selected sound.

The ∞ indicator on the TV lights up red when receiving any stereo or bilingual program.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)
A2 stereo	MONO (Regular sound) → STEREO (Stereo sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "MONO". The sound becomes monaural, but the noise is reduced.

If the sound is distorted when receiving a monaural program through the ⅂⅂ (antenna) terminal

Press A/B repeatedly until "MONO" appears on the screen.

To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.

MONO → AUTO

Notes

- The "MONO" or "AUTO" setting is memorized for each program position.
- You cannot receive stereo broadcast signal when the TV is in the "MONO" setting. Normally set the TV to "AUTO".

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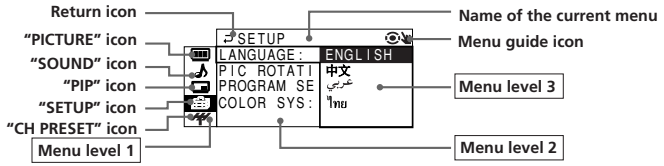
Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. Here's an overview of the menu system.



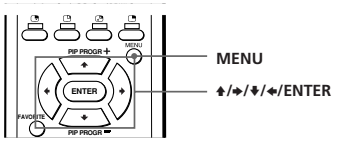
Level 1	Level 2	Level 3/Function
"PICTURE"	"PICTURE MODE"	Select the picture mode: "DYNAMIC"→ "STANDARD"→ "SOFT"→ "PERSONAL"→ "ADJUST"
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR"→ "BRIGHT"→ "HUE"→ "SHARP"
	"WIDE MODE"	Change the picture size.
	"INTELLIGENT PIC"	Optimize picture quality.
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC"→ "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE"→ "BALANCE"→ "BBE"*
	"SURROUND"	Select the surround mode: "TruSurround" → "OFF"
	"INTELLIGENT VOL"	Adjust volume automatically.
"PIP"	"PIP POSITION"	Change the position of the sub screen.
	"PIP"	Display a sub screen within the main picture.
	"SWAP"	Exchange pictures between main screen and sub screen.
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" →"中文"(Chinese) → "عربي"(Arabic) → "ไทย" (Thai)
	"PIC ROTATION"	Rotate the picture.
	"PROGRAM SETUP"	Adjust each program number settings.
	"COLOR SYS"	Change the color system: "AUTO" → "PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.
	"MANUAL PROGRAM"	Preset channels manually.
	"TV SYS"	Change the TV system: "B/G" → "I" → "D/K" → "M"

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

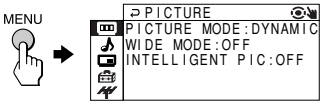
continued

How to use the menu

You can use the buttons on the remote and on the TV as well to display the menu and adjust the settings.



1 Press MENU to display the menu.



2 Press ↑ or ↓ to select the desired item.

3 Press ENTER to confirm your selection and go to the next menu level.

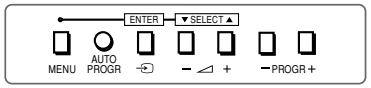
Other menu operations

To	Press
Adjust the setting value	↑,→,↓ or ←
Move to the next/previous menu level	→ or ←
Cancel the menu	MENU

Tips

- If you want to exit from Menu Level 2 to Menu Level 1, press ↑ or ↓ until the return icon (⮌) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

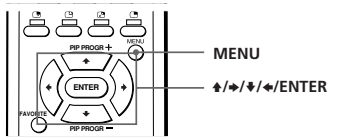


Notes

- If more than 60 seconds elapse between entries, the menu screen automatically disappears.

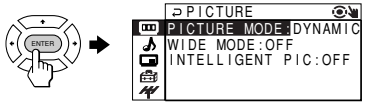
Changing the "PICTURE" setting

The "PICTURE" menu allows you to change the picture settings.

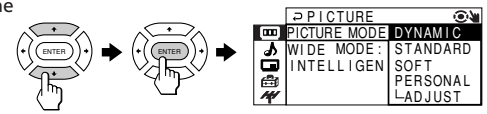


1 Press MENU.

2 Make sure the "PICTURE" icon (▭) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "PICTURE MODE"), then press ENTER.



Select	To
"PICTURE MODE"	choose either "DYNAMIC", "STANDARD", "SOFT" , "PERSONAL"*, or "ADJUST".
"WIDE MODE"	change the picture size when receiving wide-mode (16:9) picture signal. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.
"INTELLIGENT PIC"	optimize picture quality. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can receive the last adjusted picture settings from the "ADJUST" items (see page 24).

Note

- For details on the options under "PICTURE MODE", see page 13.

To return to the normal screen

Press MENU.

continued

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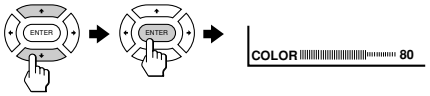
Changing the "PICTURE" setting (continued)

Adjusting the "ADJUST" items under "PICTURE MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "COLOR"), then press ENTER.



2 Adjust the value according to the following table, then press ENTER.

For	Press ↓/← to	Press ↑/→ to
"PICTURE"	decrease picture contrast	increase picture contrast
"COLOR"	decrease color intensity	increase color intensity
"BRIGHT"	darken the picture	brighten the picture
"HUE"*	increase red picture tones	increase green picture tones
"SHARP"	soften the picture	sharpen the picture

* You can adjust "HUE" for the NTSC color system only.

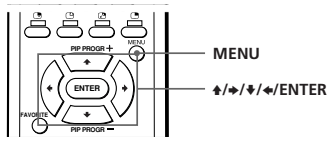
3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

Tip

- For details on the menu system and how to use the menu, refer to **Introducing the menu system** on page 20.

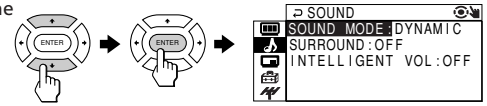
Changing the "SOUND" setting



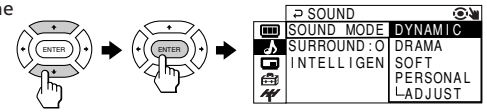
The "SOUND" menu allows you to change the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the "SOUND" icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "SOUND MODE"), then press ENTER.



Select	To
"SOUND MODE"	choose either "DYNAMIC", "DRAMA", "SOFT", "PERSONAL"*, or "ADJUST".
"SURROUND"	choose either "TruSurround" or "OFF".
"INTELLIGENT VOL"	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can received the last adjusted sound settings from the "ADJUST" option (see page 26).

Tip

- For details on the options under "SOUND MODE" and "SURROUND", see pages 13 and 17 respectively.

To return to the normal screen

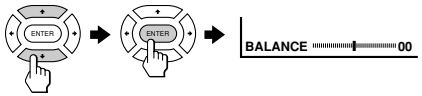
Press MENU.

continued

Changing the "SOUND" setting (continued)

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ENTER.



2 Adjust the value according to the following table, then press ENTER.

For	Press ↓/← to	Press ↑/→ to
"BASS"	decrease the bass	increase the bass
"TREBLE"	decrease the treble	increase the treble
"BALANCE"	increase the left speaker's volume	increase the right speaker's volume
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to turn off the BBE sound	

3 Repeat the above steps to adjust other items.

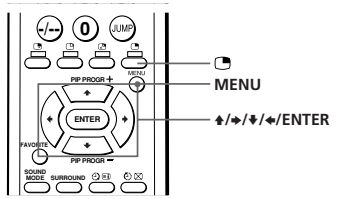
The adjusted settings will be received when you select "PERSONAL".

Tip

- For details on the menu system and how to use the menu, refer to **Introducing the menu system** on page 20.

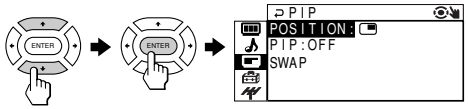
Changing the "PIP" setting

The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

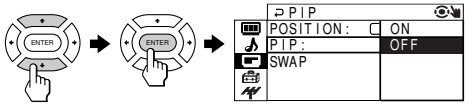


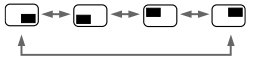
1 Press MENU.

2 Press ↑ or ↓ to select the "PIP" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "PIP"), then press ENTER.



Select	To
"POSITION"	change the position of the sub screen. Press ↑ or ↓ to select the desired position, then press ENTER. 
"PIP"	display a sub screen within the main picture. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, press or select "PIP : OFF", then press ENTER.
"SWAP"	exchange pictures between main screen and sub screen.

To return to the normal screen

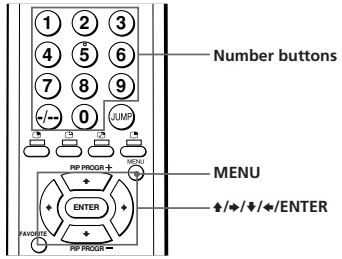
Press MENU.

Tip

- For details on the menu system and how to use the menu, refer to **Introducing the menu system** on page 20.

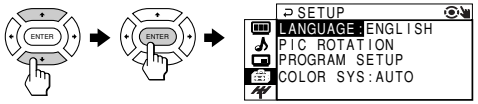
Changing the "SETUP" setting

The "SETUP" menu allows you to change the menu language, adjust the picture position, adjust the program number setting and select color system.

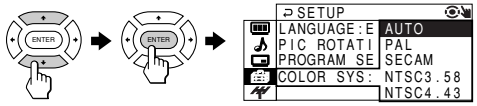


1 Press MENU.

2 Press ↑ or ↓ to select "SETUP" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "COLOR SYS"), then press ENTER.



Select	To
"LANGUAGE"	change the menu language (see **Changing the menu language** on page 11).
"PIC ROTATION"	adjust the picture position when it is not aligned to the TV screen. Press ↑, →, ↓ or ← to adjust the picture position, then press ENTER.
"PROGRAM SETUP"	adjust each program number settings. (see **Adjusting each program number settings (PROGRAM SETUP)** on page 29).
"COLOR SYS"	change the color system. Normally, set this to "AUTO".

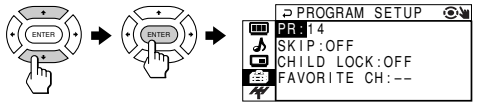
To return to the normal screen

Press MENU.

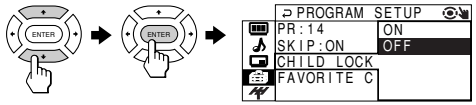
Adjusting each program number settings (PROGRAM SETUP)

1 Select "PROGRAM SETUP" from the "SETUP" menu.

2 Select "PR" and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "CHILD LOCK"), then press ENTER.



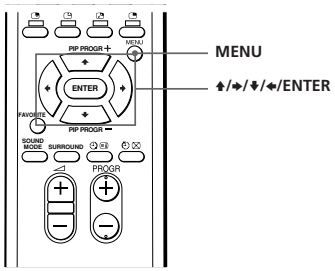
Select	To
"PR"	select the desired program number.
"SKIP"	skip unwanted or unused program number. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.
"CHILD LOCK"	prevent children from watching this selected program number. Press ↑ or ↓ to select "ON", then press ENTER. The lock symbol ( ) appears on the screen. To cancel, select "OFF", then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.
"FAVORITE CH"	program favorite channels for direct selection. Press ↑ or ↓ to select one of the six favorite channel numbers (if you decide not to make any changes, select " "), then press ENTER. To view the selected favorite channel, refer page 14.

4 To continue adjusting other program numbers, press ↑ or ↓ to select "PR", then repeat step 2 and 3.

To return to the normal screen

Press MENU.

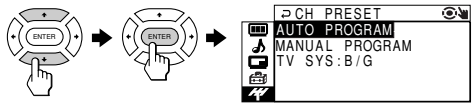
Changing the Channel Preset (“CH PRESET”) setting



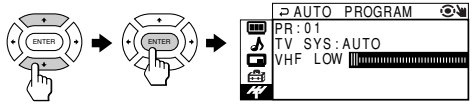
The “CH PRESET” menu allows you to adjust the setup of your TV. For example, you can receive a channel with a weak signal that fails to be tuned in by automatic presetting.

1 Press MENU.

2 Press ↑ or ↓ to select the “CH PRESET” icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “AUTO PROGRAM”), then press ENTER.



Select	To
“AUTO PROGRAM”	preset channels automatically.
“MANUAL PROGRAM”	preset channels manually. See **Presetting channels manually** on page 31.
“TV SYS”	change the TV system. Press ↑ or ↓ to select either “B/G”, “I”, “D/K” or “M”, then press ENTER.

To return to the normal screen

Press MENU.

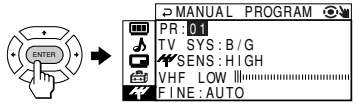
Tip

- For details on the menu system and how to use the menu, refer to **Introducing the menu system** on page 20.

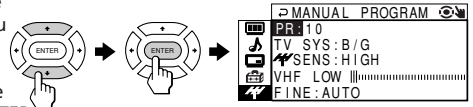
Presetting channels manually

1 After selecting “MANUAL PROGRAM”, select the program number to which you want to preset a channel.

(1) Make sure “PR” is selected , then press ENTER.



(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number “10”) appears on the menu, then press ENTER.

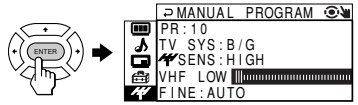


Tip

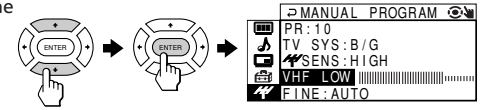
- You can also select the program number with the PROGR +/– or number buttons.

2 Select the desired channel.

(1) Make sure either “VHF LOW”, “VHF HIGH” or “UHF” is selected, then press ENTER.

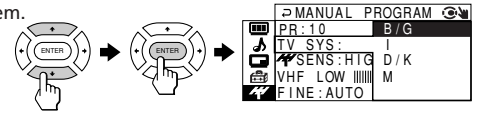


(2) Press ↑ or ↓ until the desired channel picture appears on the TV screen, then press ENTER.

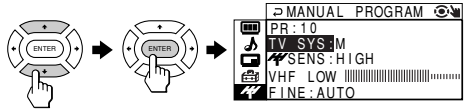


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select “TV SYS”, then press ENTER.



(2) Press ↑ or ↓ until the sound becomes normal (e.g., “M”), then press ENTER.

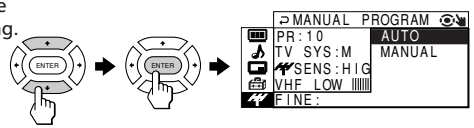


continued

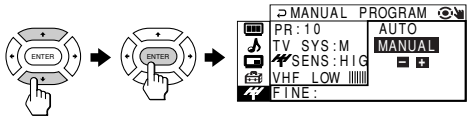
Changing the Channel Preset ("CH PRESET") setting (continued)

4 If you are not satisfied with the picture and sound quality, you may improve them by using fine tuning.

(1) Press ↑ or ↓ to select "FINE", then press ENTER.

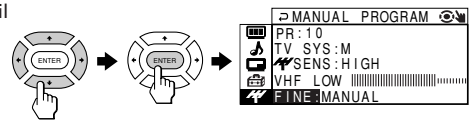


(2) Press ↑ or ↓ to select "MANUAL", then press ENTER.



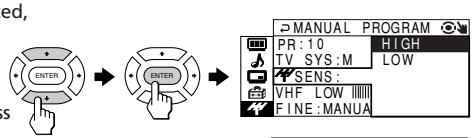
(3) Press ↑, →, ↓ or ← until the picture and sound quality are optimal, then press ENTER.

The + or – icon on the menu flashes while tuning.

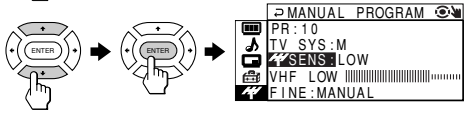


5 If the TV signal is too strong and the picture is distorted, you may reduce the TV receiving sensitivity.

(1) Press ↑ or ↓ to select "SENS", then press ENTER.



(2) Press ↑ or ↓ to select "LOW", then press ENTER.



To return to the normal screen

Press MENU.

Notes

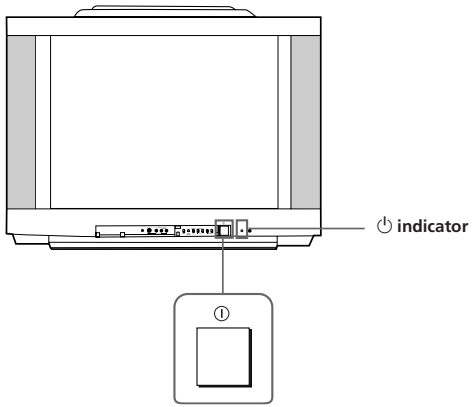
- If you preset a locked program number ("CHILD LOCK"), that particular program number will be unlocked automatically (see page 29).
- The TV system ("TV SYS"), "SENS" and the fine tuning ("FINE") settings are memorized for each program number.

Additional Information

Self-diagnosis function

Your TV is equipped with a self-diagnosis function. If there is a problem with your TV, the ⏻ indicator flashes red. The number of times the ⏻ indicator flashes indicates the possible causes.

Front of TV



1 Check that the ⏻ indicator flashes red a number of times between 3-second intervals.

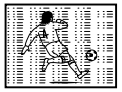
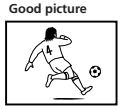
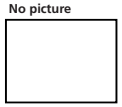
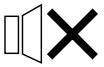
2 Count the number of times the ⏻ indicator flashes.

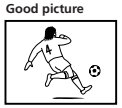
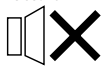
3 Press ⏻ (main power) to turn off your TV.

4 Inform your nearest Sony service center about the number of times the ⏻ indicator flashes.
Be sure to note the model name and serial number located on the rear of your TV.

Troubleshooting

If you find any problem while viewing your TV, please check the following guide. If any problem persists, contact your Sony dealer.

Symptom	Possible cause	Solutions	Page
Snowy picture  **Noisy sound** 	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• Channel presetting is inappropriate or incomplete.	• Display the “CH PRESET” menu and select “MANUAL PROGRAM” to preset the channel again.	30
	• The antenna type is inappropriate.	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	–
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture **Noisy sound** 	• Broadcast signals are too strong.	• Display the “CH PRESET” menu and select “MANUAL PROGRAM”. Then, select “ SENS: LOW”. • Turn off or disconnect the booster if it is in use.	30 –
Good picture  **Noisy sound** 	• The TV system setting or channel presetting is inappropriate or incomplete.	• If the sound of all the channels are noisy, display the “CH PRESET” menu and check the TV system (“TV SYS”) setting, then select “AUTO PROGRAM” to preset the channels again. • If the sound of some channels are noisy, select the channel, then display the “CH PRESET” menu and select the appropriate TV system (“TV SYS”).	30 30
No picture  **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and the VCR connections.	4
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	10 10

Symptom	Possible cause	Solutions	Page
Good picture  **No sound** 	• The volume level is too low.	• Press + to increase the volume level.	11
	• The sound is muted.	• Press to cancel the muting.	11
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	– –
Double images or “ghosts” 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning (“FINE”) function.	– 32
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the “PICTURE” menu and select “ADJUST” of “PICTURE MODE”, then adjust the “COLOR” level.	23
	• The color system setting is inappropriate.	• Display the “SETUP” menu and check the color system (“COLOR SYS”) setting (usually set this to “AUTO”).	28
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth’s magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about five minutes, then turn it on again.	–
TV cannot receive stereo broadcast signal.	• The stereo reception setting is inappropriate.	• Press A/B until “AUTO” appears on the screen.	18

continued

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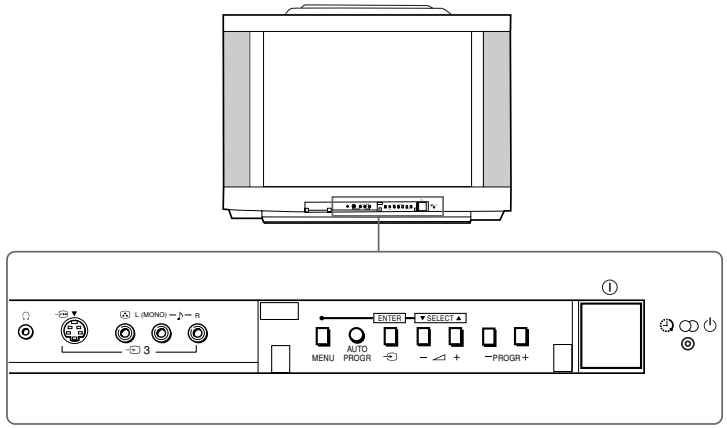
Troubleshooting (continued)

Symptom	Possible cause	Solutions	Page
Stereo broadcast sound switches on and off or is distorted. **or** **The sound switches between monaural and stereo frequently.**	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Broadcast signal has a transmission problem.	• Press A/B until a good sound is heard.	18
Picture slant	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" until the picture position is optimal.	– 28
Lines moving across the TV screen.	• There is interference from external sources, e.g., heavy machineries, nearby broadcast station.	• Use the fine tuning ("FINE") function.	32
The ⏻ indicator on your TV flashes red a number of times between 3-second intervals.	• Your TV may need service.	• Contact your nearest Sony service center.	33
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.	—	–
A "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Overview of controls

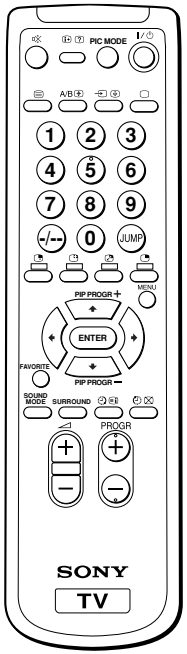
TV front panel



Button	Function	Page
AUTO PROGR	Preset channels automatically.	5
⏻	Turn off completely or turn on the TV.	10
PROGR +/–	Select program number.	10
⏻	Standby indicator.	10
◿ +/–	Adjust volume.	11
⏎	Select TV or video input.	11
🕘	Wake Up indicator.	12
◯◯	Stereo/Bilingual indicator.	18
MENU operations		
MENU	Display the menu.	22
SELECT ▼/▲	Select and adjust items.	22
ENTER	Confirm selected items.	22
🎧	Headphones jack.	–

continued

Remote control



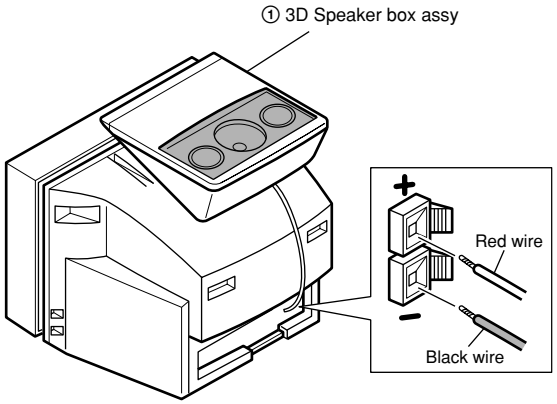
The names/symbols of buttons on the remote are indicated in different colors to represent the available functions.

Label color	Button function
White	For general TV operations
Green	For Teletext operations
Yellow	For PIP operations

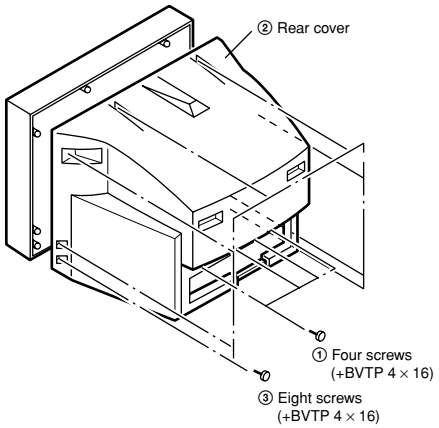
Button	Function	Page
I/⏻	Turn off temporarily or turn on the TV.	10
PROGR +/–	Select program number.	10
0 – 9, -/--	Input numbers.	10
+/–	Adjust volume.	11
⏎	Select TV or video input.	11
▢	Display the TV program.	11
🔇	Mute the sound.	11
ⓘ	Display on-screen information.	11
JUMP	Jump to previous program number.	11
Timer operations		
⏲	Set TV to turn on automatically.	12
⏲	Set TV to turn off automatically.	12
PIC MODE	Select picture mode.	13
SOUND MODE	Select sound mode.	13
FAVORITE	Display favorite channels.	14
PIP operations		
◔	Display a sub screen.	15
◔	Swap main and sub screens.	16
◔	Freeze the sub screen.	16
◔	Select video input for the sub screen.	16
▲/▼ (PIP PROGR +/–)	Change programs in the sub screen.	16
SURROUND	Select surround mode.	17
Stereo/bilingual operations		
A/B	Select stereo/bilingual mode.	18
Teletext operations (not use for KV-XA34M97/ XA34M67/XA29M97/XA29M67)		
☰	Display Teletext broadcast.	–
⊕	Enlarge the Teletext display.	–
?	Reveal concealed information.	–
⊕	Stop Teletext display from scrolling.	–
☰i	Display Teletext service contents.	–
⊠	Show TV screen while waiting for Teletext page.	–
▭ (red, green, yellow, blue)	Access a FASTEXT menu.	–
Menu operations		
MENU	Display the menu.	22
▲/◆/▼/◆	Select and adjust item.	22
ENTER	Confirm selected item.	22

SECTION 2
DISASSEMBLY

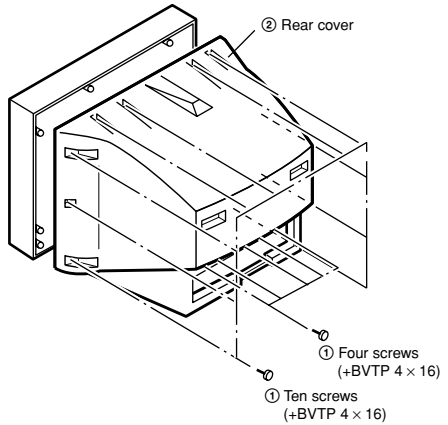
2-1. 3D SPEAKER REMOVAL



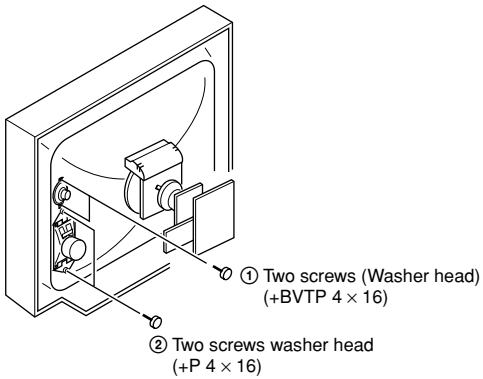
2-2. REAR COVER REMOVAL (KV-XA29M97/XA29M67)



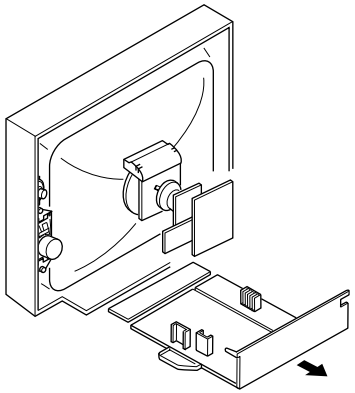
(KV-XA34M97/XA34M67)



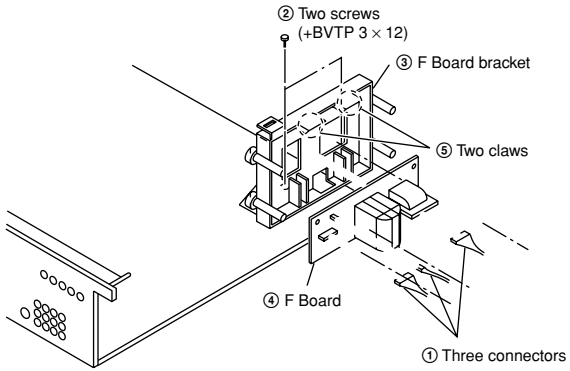
2-3. SPEAKER REMOVAL



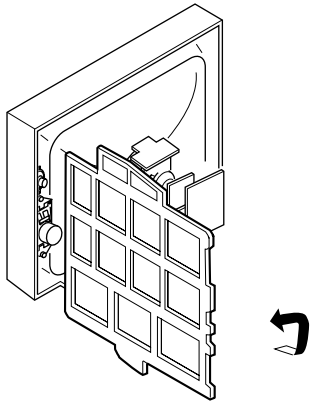
2-4. CHASSIS ASSY REMOVAL



2-5. F BRACKET REMOVAL



2-6. SERVICE POSITION



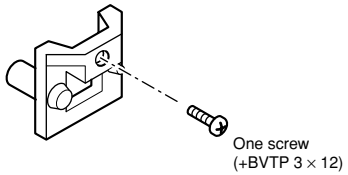
Note:

1. Undress necessary wires before going to Service Position.

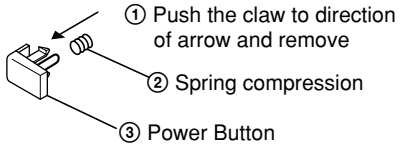
2-7. REPLACEMENT OF PARTS

For replacement of light guide,unscrew them, exchange with new parts and fix them with screws respectively.

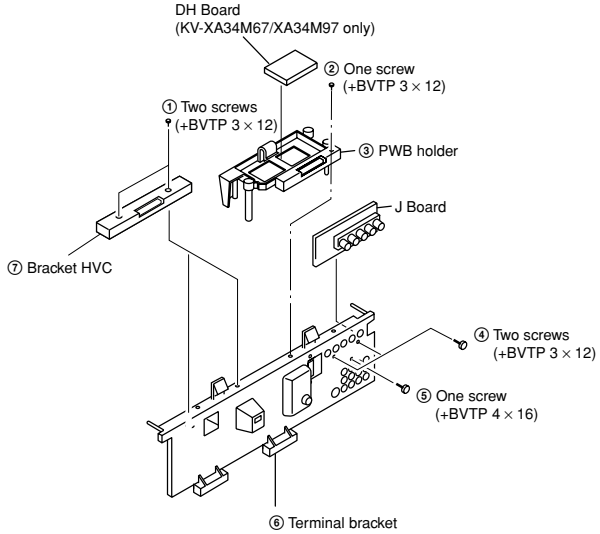
2-7-1. Light Guide



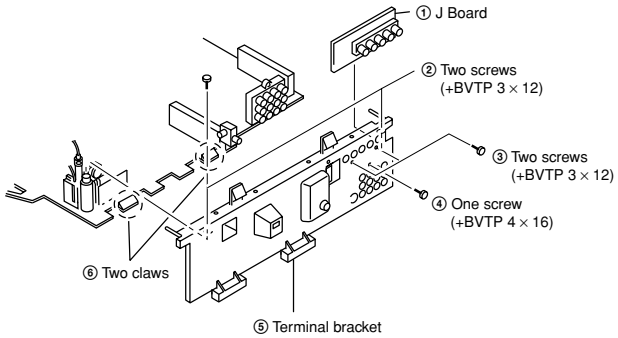
2-7-2. Power Button



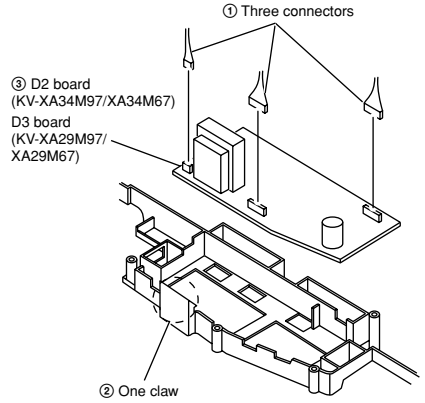
2-8. PWB HOLDER, DH BOARD (KV-XA34M67/XA34M97 ONLY), J BOARD AND BRACKET HVC REMOVAL



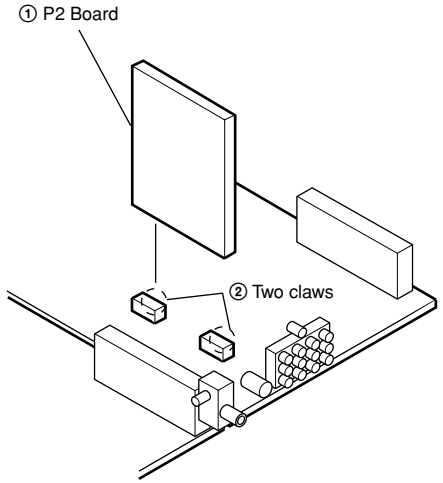
2-9. TERMINAL BRACKET REMOVAL



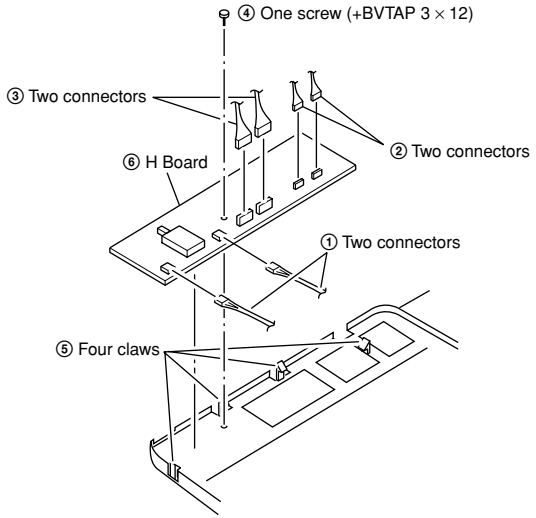
2-10. D2 AND D3 BOARDS REMOVAL



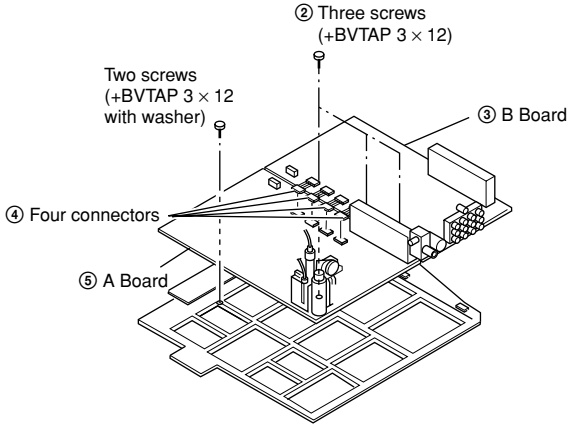
2-11. P2 BOARD REMOVAL



2-12. A AND B BOARDS REMOVAL

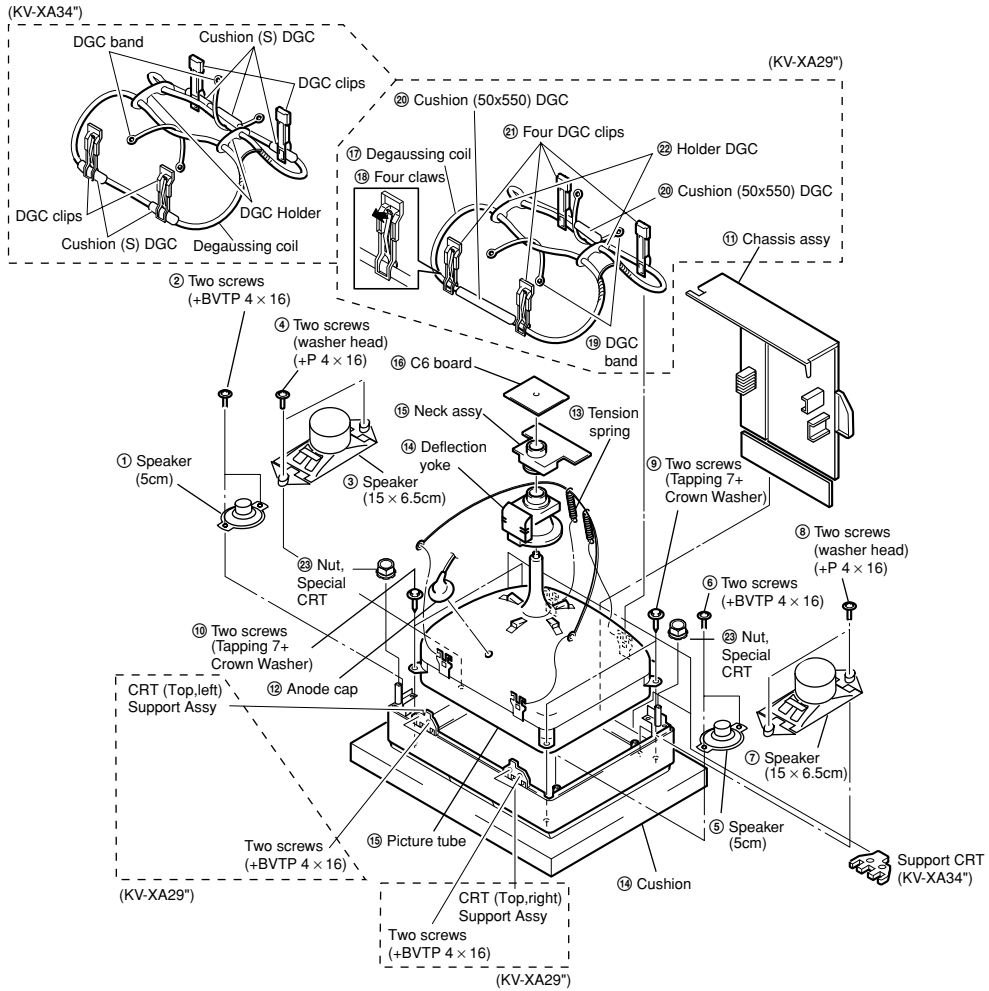


2-13. H BOARD REMOVAL



2-14. PICTURE TUBE REMOVAL

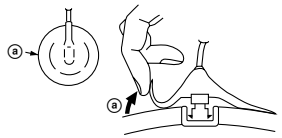
Note : i) Please remove necessary CRT support located on top left, top right, bottom left, bottom right, prior to removing the CRT.
ii) ⑨ and ⑩ (screws Tapping 7 + Crown Washer) (KV-XA29M97/XA29M67)
iii) Nut, Special, CRT (KV-XA34M97/XA34M67)



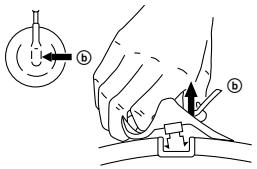
• REMOVAL OF ANODE-CAP

NOTE : After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

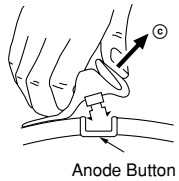
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



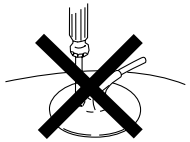
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

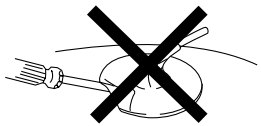


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Do not damage the surface of anode-caps with sharp shaped objects.
② Do not press the rubber too hard so as not to damage the inside of anode-cap. A metal fitting called the shatter-hook terminal is built into the rubber.
③ Do not turn the foot of rubber over too hard. The shatter-hook terminal will stick out or damage the rubber.





SECTION 3
ADVANCE OPERATION

3-1. "RESET" FUNCTION

1. Purpose

If a customer faces some setting problem that cannot be solved, using the "RESET" function some items will be reset to its original setting (shipment condition)

2. How to Operate

The way to access to the "RESET" Function:-

a) By pressing "MENU" button or "SELECT" button (for non-menu models) on the Front Key Input and hold it down for 5 seconds.

3. Subsequent of Operation

Sequential to the resetting operation (either methods being used in No. 2), TV set would shut down once and automatically turn on again. The power-off duration is expected to be about 500msec. An OSD message, "RESET" tentatively will be displayed for 10 sec after IK status gets stable.
As a result, some items will be reset to an initial condition (shipment condition) wheareas some other remains at the last selection by user.

Items that remains at the last selection by user

Channel No., Favourite CH Setup, PIC rotation, OSD Language, Fine Tuning, TV System, Skip

Reset Items

Video input	RF	Antenna sensitivity	HIGH*
Volume	30	Stereo mode	STEREO
Picture mode	DYNAMIC	Bilingual mode	MAIN*
Sound mode	DYNAMIC	High-deviation mode	AUTO*
Surround mode	OFF	Child lock	OFF*
Favourite CH mode	AUTO	Wide mode	OFF
Multi Picture (PIP)	OFF	Game mode	OFF
PIP position	Bottom Right	Sleep timer	OFF
OSD recall	OFF	Wake-up timer	OFF
Intelligent volume	OFF	Sound muting	OFF

*= only when in RF mode

SECTION 4
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE control ..... normal
BRIGHTNESS control ..... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Oscilloscope

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

4-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast, Brightness } normal
2. Position neck assy as shown in Fig4-2.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (See Figures 4-1 through 4-4.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 4-2.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 4-5.)

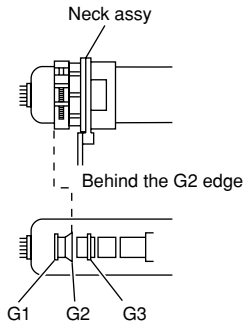


Fig. 4-1

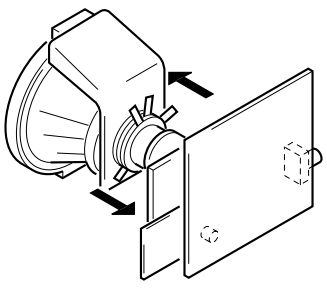


Fig. 4-2

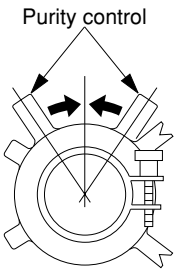


Fig. 4-3

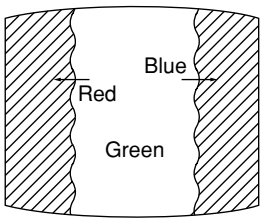


Fig. 4-4

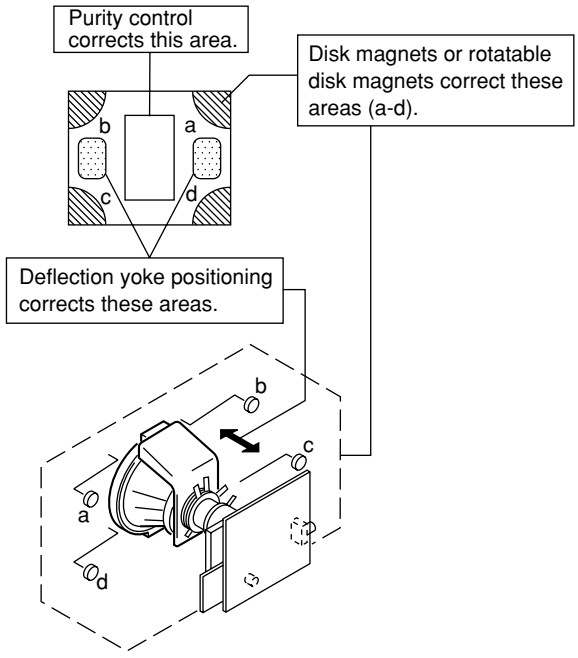


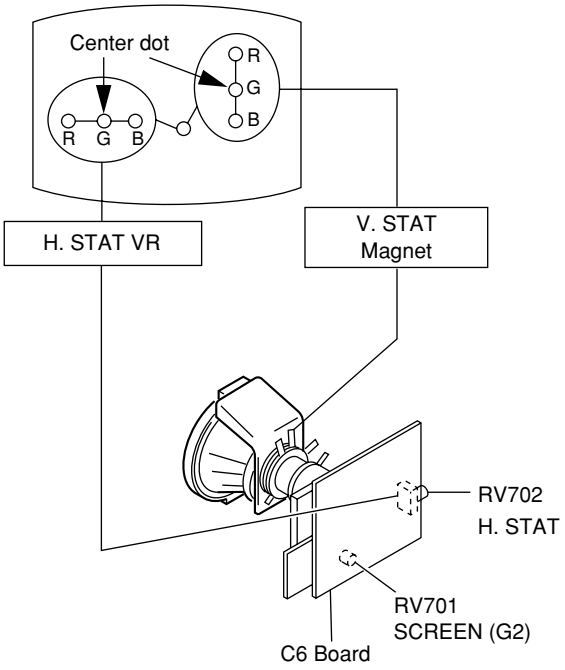
Fig. 4-5

4-2. CONVERGENCE

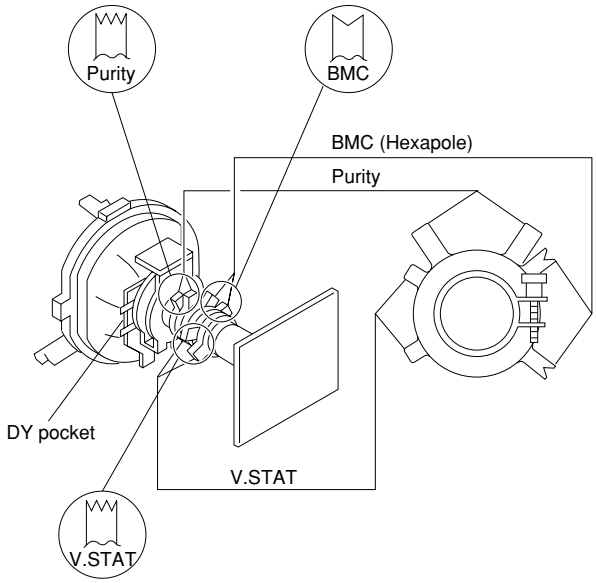
Preparation :

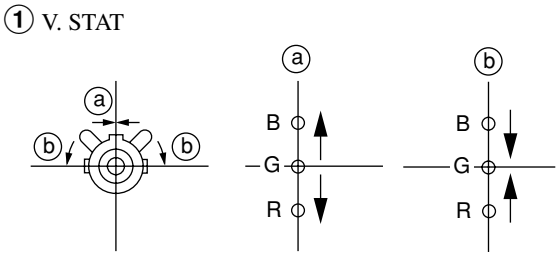
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal.
- Pic mode: Personal (Pic 90%, Brightness 50%, Col 50 %, Hue 50%, Shp 50%).

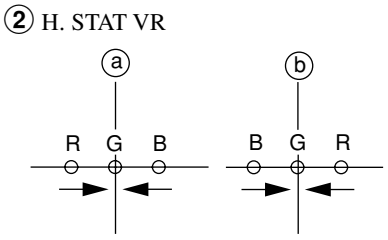
(1) Horizontal and Vertical Static Convergence

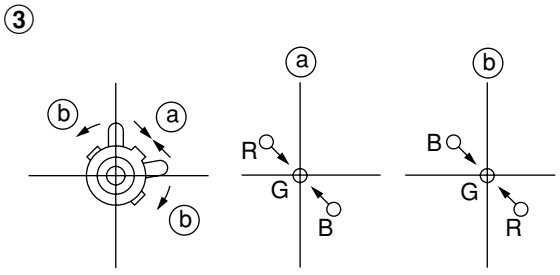


1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)

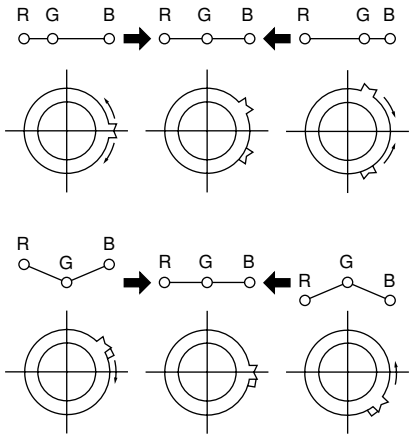








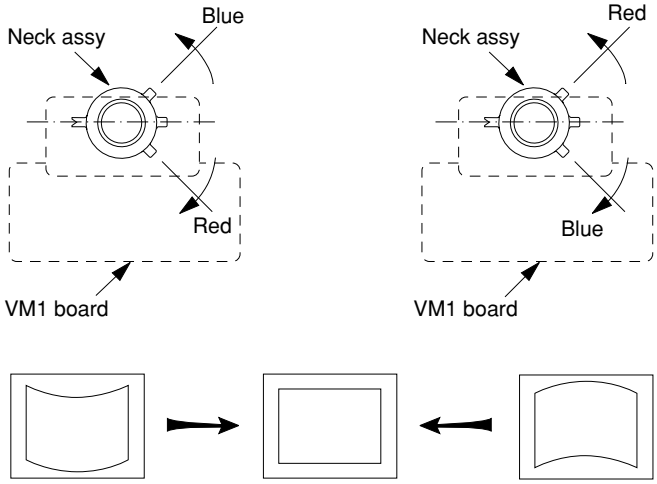
④ BMC (Hexapole) Magnet.
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



⑤ Y separation axis correction magnet adjustment.

1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .

2. Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.



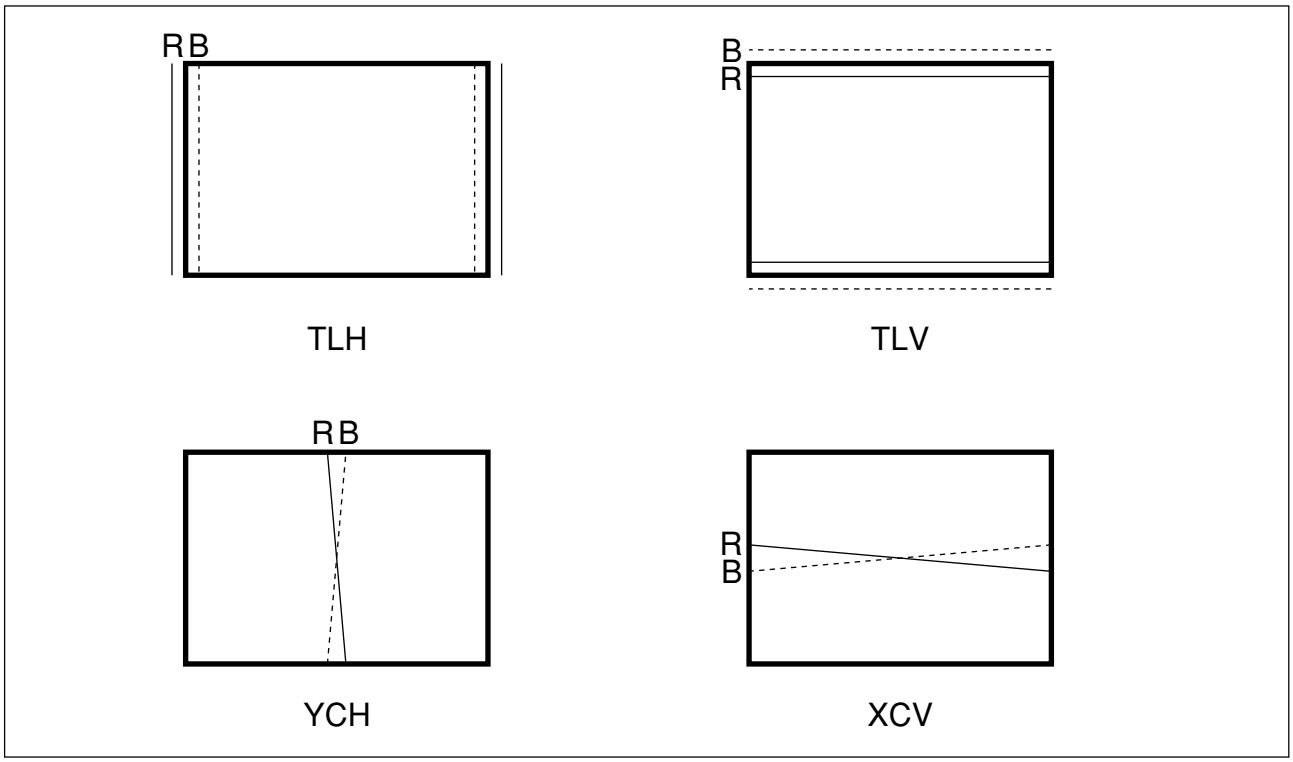
Note

1. The Red and Blue magnets should be equally far from the horizontal center line.
2. Do not separate the Red and Blue magnets too far. (Less than 8 mm)

(2) Dynamic Convergence Adjustment

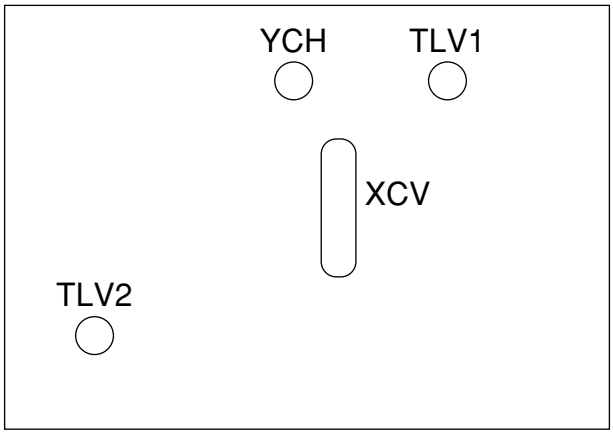
Preparation:

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence

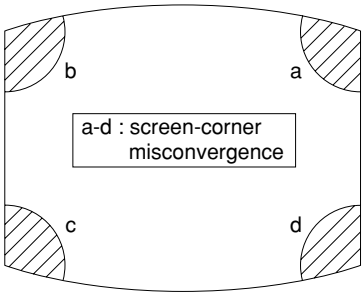


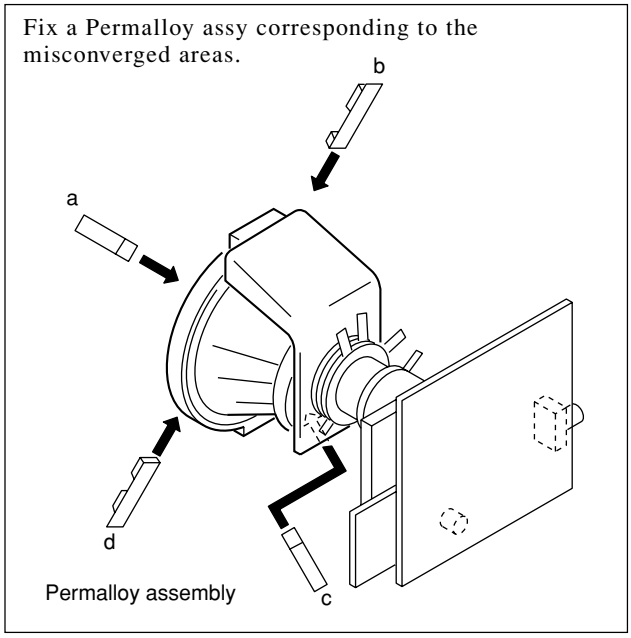
TLV	Rotate	TLV-2	VOL (29", 34") on DY
	Rotate	TLV	VOL (25") on DY
XCV	Rotate	XCV	Adj core on DY
YCH	Rotate	YCH	VOL on DY
TLH	Insert	TLH	Correction Plate to DY Pocket (Left or Right)

ON DY:



(3) Screen-corner Convergence





4-3. FOCUS ADJUSTMENT

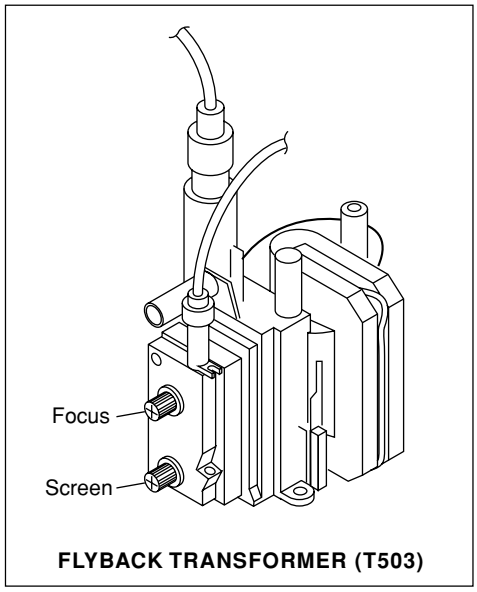
FOCUS adjustment should be completed before W/B adjustment.

(Except 34")

1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "DYNAMIC".
3. (a) Adjust focus VR so that the center of screen becomes just focus.
4. Change the receiving signal to white pattern and blue back.
5. Confirm magenta ring is not noticeable. Incase magenta is very obvious, adjust focus VR to take balance of magenta ring and focus.

(For 34")

1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "Standard".
3. Set S2801 to mechanical center position.
4. Adjust focus VR so that the center of the screen becomes just focus.
5. Adjust S2801 when corner focus is unbalance in right and left.
6. Change the receiving signal to white pattern blue back.
7. Confirm Magenta ring is not noticeable. Incase magneta ring is very obvious, reset S2801 to mechanical center posotion and then adjust FOCUS VR to take balance of MAGENTA RING and FOCUS.

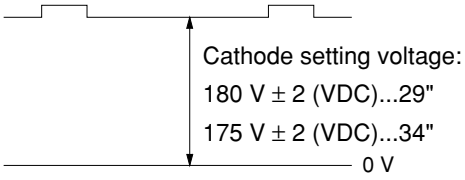


FLYBACK TRANSFORMER (T503)

4-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C6 board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Adjust G2 (screen) on the FBT until picture shows the point before cut off.

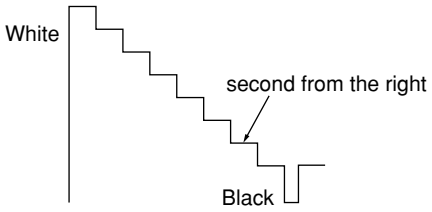


2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 5-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black to white from the pattern generator.
3) BRIGHTNESS ..... 50%.
   PICTURE ..... MINIMUM
4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimlylit.



SECTION 5
CIRCUIT ADJUSTMENTS

5-1. ADJUSTMENT WITH COMMANDER

Service adjustments to this model can be performed using the supplied Remote Commander RM-953

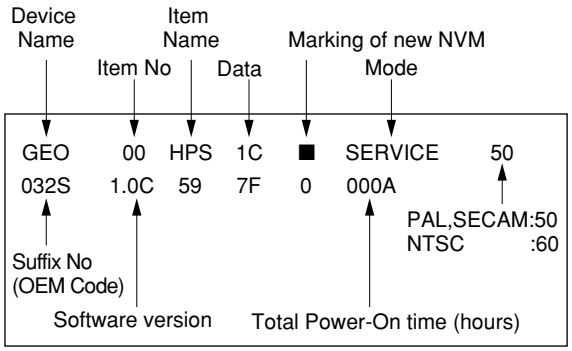
a. ENTERING SERVICE MODE

With the unit on standby

→ [DISPLAY] → [5] → [VOL (+)] → [POWER]

This operation sequence puts the unit into service mode.

The screen display is :



b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), to select the adjustment.
4) Press [MUTING] button to indicate WRITE on the screen.
5) Press [0] button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

[1], [4] ↓	Select the adjustment item.
[3], [6] ↓	Raise/lower the data value.
[MUTING] ↓	Writes.
[0]	Executes the writing.

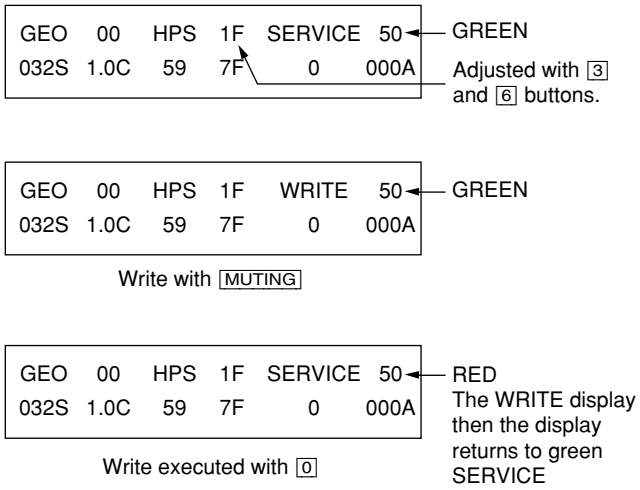
[7], [0]	All the data becomes the values in memory.
[8], [0]	All user control goes to the standard state.
[5], [0]	Service data initialization (Be sure not to use usually.)
[MUTING] + [0]	Write 50Hz adjustment data to 60Hz, or vice versa.
[2], [0]	Copy and write all data.

5-2. ADJUSTMENT METHOD

Item Number 00 of device GEO
This explanation uses H-Position as an example.

1. Select "GEO 00 HPS" with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the [MUTING] button. (The display changes to WRITE.)
5. Execute the writing with the [0] button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-


GEO 00 HPS 1F SERVICE 50
032S 1.0C 59 7F 0 000A
GREEN
Adjusted with [3] and [6] buttons.
GEO 00 HPS 1F WRITE 50
032S 1.0C 59 7F 0 000A
GREEN
Write with [MUTING]
GEO 00 HPS 1F SERVICE 50
032S 1.0C 59 7F 0 000A
RED
The WRITE display then the display returns to green SERVICE
Write executed with [0]

Use the same method for all Items. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], then execute the write with [0].

Note : 1. In [WRITE], the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table

8 TVG	Functionality		Init.	Range	Function	Table & Note	Device Name (Slave Address)	Remarks:
Category	No.	Name						Initial data for tables
GEO	00	HPS	1E	3F	H Position	Normal(50/60)/Wide(50/60)	CXA2159S(88H)	1E (for 50Hz)/16 (for 60Hz)
	01	HSZ	25	3F	H Size	Normal(50/60)/Wide(50/60)		typical
	02	PAP	1F	3F	Pin Amp	Normal(50/60)/Wide(50/60)		typical
	03	TLT	7	0F	Trapezium	Normal(50/60)/Wide(50/60)		typical
	04	VPS	1F	3F	V Position	Normal(50/60)/Wide(50/60)		typical
	05	VSZ	1F	3F	V size	Normal(50/60)/Wide(50/60)		typical
	06	SCO	7	0F	S Correction	Normal(50/60)/Wide(50/60)		typical
	07	VLN	7	0F	V Linearity	Normal(50/60)/Wide(50/60)		typical
	08	BOW	7	0F	AFC Bow	Normal(50/60)/Wide(50/60)		typical
	09	AGL	7	0F	AFC Angle	Normal(50/60)/Wide(50/60)		typical
	0A	UPN	1F	3F	Upper Pin	Normal(50/60)/Wide(50/60)		typical
	0B	LPN	1F	3F	Lower Pin	Normal(50/60)/Wide(50/60)		typical
	0C	HBL	1	1	H Blanking on/off			1
	0D	LBL	0B	0F	Left H Blanking	Normal(50/60)/Wide(50/60)		0B (for 50Hz)/0F (for 60Hz)
	0E	RBL	2	0F	Right H Blanking	Normal(50/60)/Wide(50/60)		2
WHB	00	RDR	25	3F	R Drive	DYNAMIC/others	CXA2159S(88H)	2A (for non-DYNAMIC)/25 (for DYNAMIC)
	01	GDR	25	3F	G Drive	DYNAMIC/others		typical
	02	BDR	25	3F	B Drive	DYNAMIC/others		typical
	03	RCT	7	0F	R Cutoff	SECAM/others		7
	04	GCT	7	0F	G Cutoff	SECAM/others		typical
	05	BCT	7	0F	B Cutoff	SECAM/others		typical
	06	BMN	15	1F	Brightness Minimum Data			15
	07	SBR	25	3F	Sub Brightness Control			typical
	08	APB	0	3	Sub Bright Control Switch for Intelligent Picture #3			3
SAJ	00	PMX	38	3F	Picture Maximum Data	non-Wide/Wide	CXA2159S(88H)	38 (non-WIDE)/33 (WIDE)
	01	SHU	7	0F	Sub Hue Control	TV/Video		typical
	02	SSH	5	0F	Sub Sharpness Control	TV/Video		04 (for TV)/09 (FOR VIDEO)
	03	SCL	1F	3F	Sub Color Control	(NTSC/others)/WIDE(NTSC/others)		typical
VP	00	EHT	5	0F	EHT Comp	50/60Hz	CXA2159S(88H)	5
	01	GMA	2	3	Gamma Correction (sepatated in STANDARD mode)	NON-STD.(NTSC/Others)/STD.(NTSC/Others)		02 (non-STANDARD)/01 (STANDARD)
	02	APG	0	1	Gamma Control Switch for Intelligent Picture #3	NON-STD.(NTSC/Others)/STD.(NTSC/Others)		0
	03	YDL	6	0F	Y Delay	PAL/SECAM/NTSC/DVD		(09/08/08 for SECAM/NTSC/DVD)
	04	SST	1	3	SECAM ID Start Position	SECAM&AUTO/FORSED-PAL&NTSC		(01 for forced PAL/NTSC)
	05	SSP	1	3	SECAM ID Stop Position	SECAM&AUTO/FORSED-PAL&NTSC		(01 for forced PAL/NTSC)
	06	RLM	0	3	RGB Limit			0
	07	SLV	2	03	SECAM ID Level	SECAM&AUTO/FORSED-PAL&NTSC		(02 for forced PAL/NTSC)
	08	SBF	22	3F	SECAM BELL f0	SECAM&AUTO/FORSED-PAL&NTSC		(22 for forced PAL/NTSC)
	09	DYC	1	1	Dynamic Color on/off			1
	0A	ABL	1	1	ABL Mode Switching (except STANDARD mode)	except STANDARD		(00 for STANDARD)/01 (OTHERS)
	0B	VTH	1	1	ABL Detection Vth Switching			1
	0C	SFO	1	1	FO Switching for Sharpness	NTSC/others		1
	0D	DCX	1	1	DC Trans. Ratio Switching			1

Adjustment Item Table

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	Remarks:
Category	No.	Name						Initial data for tables
VP	0E	SHT	1	1	Pre-/Overshoot ratio Switch	NTSC/others	CXA2159S(88H)	1
	0F	HDW	0	1	H Drive Pulse Width Switch			0
	10	AFC	1	03	AFC Gain Control	TV/Video/Text		01/00 (for TV/VIDEO)
	11	HOS	7	0F	H Oscillation			7
	12	HSS	0	1	Slice Level of H Sync Sep.			0
	13	VSS	0	1	Slice Level of V Sync Sep.			0
	14	HMS	1	1	Macro Vision C/m off/on	50/60Hz		1
	15	YUV	0	1	Y SEL			0
	16	CDV	1	3	CD mode for Video and RF under no signal	Video only		1
	17	RON	1	1	R ON	not memorized		1
	18	GON	1	1	G ON	not memorized		1
	19	BON	1	1	B ON	not memorized		1
	1A	PON	1	1	P ON	not memorized		1
	1B	AXN	1	1	AXIS SW	NTSC/others (only for DYNAMIC)		1
	1C	RSL	0	1	RGB SEL			0
	1D	VBW	0	3	VBLKW			0
	1E	RFP	0	1	REFP			0
	1F	VMC	0	3	VM Level			0
AP	00	AGC	0	1	AGC On/off Control		BH3868FS(80H)	0
	01	SON	0	1	Surround On/off			0
	02	SST	0	1	Surround Stereo			0
	03	SMO	0	1	Surround Monoral			0
	04	LOP	0	1	Surround Effect Enhancer			0
	05	SUR	0	7	Surround Effect			0
	06	BAS	12	1F	Bass Sound Mode Control	dyna/drama/soft		12/10/10 (for DYNAMIC/DRAMA/SOFT)
	07	TRE	13	1F	Treble Sound Mode Control	dyna/drama/soft		12/12/10 (for DYNAMIC/DRAMA/SOFT)
	08	TRF	0	3	Treble data offset			2
	09	BBE	99	FF	BBE Sound Mode Control	dyna/drama/soft		99/D5/00 (for DYNAMIC/DRAMA/SOFT)
MSP	00	WST	15	FF	W/G Stereo Threshold		MSP3415D(84H)	15
	01	WBT	EC	FF	W/G Bilingual Threshold			EC
	02	WLL	5	FF	W/G Monaural Threshold			5
	03	WAC	1	0F	W/G Agreement Count			1
	04	WDL	30	FF	W/G Search Delay			30
	05	NDL	20	FF	NICAM Search Delay			20
	06	SDL	10	FF	Stereo Status Read Delay			10
	07	AGC	1	1	AGC Switch Auto/Constant			1
	08	REL	28	3F	AGC Gain at Constant Mode			28
	09	CRM	0	1	Carrier muting on/off			0
	0A	ACO	1	1	Audio Clock out on/off			1

Adjustment Item Table

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	Remarks:
Category	No.	Name						Initial data for tables
MSP	0B	FP	1B	7F	FM Prescale for non-M system		MSP3415D(84H)	1B
	0C	FPM	32	7F	FM Prescale for M system			32
	0D	FH	36	7F	FM Prescale for HDEV			36
	0E	FHM	65	7F	FM Prescale for HDEV and M			65
	0F	WGP	1C	7F	W/G Prescale			1C
	10	NIP	7F	7F	NICAM Prescale			7F
	11	ERR	50	FF	Auto FM Switch Threshold			50
	12	VOL	6D	FF	Loud Speaker gain 7000h to 7ff0h			6D
SVP	00	SBF	22	3F	SECAM BELL f0		CXA2139S(8AH)	22
	01	HOS	7	0F	H Oscillation			7
	02	SHU	8	0F	Sub Hue Control	TV/Video		8
	03	AFC	1	3	AFC Gain	TV/Video		1
PIP	00	SDL	2	0F	Delay of Output SELECT		SDA9288X(D6H)	2
	01	PPH	15	FF	H Position of TOP-LEFT Pin P			15
	02	PPV	2E	FF	V Position of TOP-LEFT Pin P			2E
	03	YDL	0	7	Delay of Luminance Input			0
	04	HDI	0	0F	H Sync Delay for Inset			0
	05	ISC	1	1	Inset Clock Selection			1
	06	CLP	1	1	Clamp Pulse Selection			1
	07	CLC	0	1	Clamp Cycle Selection			0
	08	CON	0	0F	Contrast Adjustment for inset			0
	09	PLL	2	3	H Position For A-ch			2
	0A	PDV	0	0F	PIP V Pedestal Level			0
	0B	PDU	0	0F	PIP U Pedestal Level			0
TXT	00	TXH	0	3	Teletext Horizontal Position		SAA5261(58H)	0
	01	TXV	0	3	Teletext Vertical Position			0
OPM	00	OSH	0D	3F	OSD H Position	Option-Misc	CXP750097(60H)	0D
	01	COM	2	3	Comb Selection (0: None, NTSC, 2: Digital, 3: 3D)			1
	02	APC	1	1	APC Switch			1
	03	TSY	0	3	TV Sys at Auto TV Sys			0
	04	MUT	0	1	No Signal Mute			1
	05	AFM	1	1	Auto FM Switch			1
	06	RFB	0	3	C-BPF Control			0
	07	TV0	2	7	Tilt to V-Angle Offset			2
	08	DBL	0	1	Disable Blueback Function			0
	09	SSO	1	3	Speed Search Option (0: Off, 1: 4X, 2: 6X, 3: 8x)			1
	0A	SCH	1	7F	CH Selection for Shipping Condition	NTSC Models only		7
	0B	SCA	1	1	Cable/Air selection for shipping condition	NTSC Models only		1
OPB	00	OP1	FF	FF	Optional Bits 1 (see below)	Option-Bits	CXP750097(60H)	-
	01	OP2	67	FF	Optional Bits 2 (see below)			-
	02	OP3	31	FF	Optional Bits 3 (see below)			-
	03	OP4	97	FF	Optional Bits 4 (see bellow)			-

NOTE

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory.
  In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

ITEM INFORMATION

No. OPB0 OP1

Item	XTAL 4.43	XTAL 3.58	SECAM	2nd. Lang	B/G	I	D/K	M
KV-XA29M67	1	1	1	1	1	1	1	1
KX-XA29M97	1	1	1	1	1	1	1	1
KV-XA34M67	1	1	1	1	1	1	1	1
KV-XA34M97	1	1	1	1	1	1	1	1

No. OPB1 OP2

Item	TOP	NICAM	HDEV	Thai Bil	Dis Fav.	DVD Input	AV Input	
KV-XA29M67	0	1	1	0	0	1	1	1
KX-XA29M97	0	1	1	0	0	1	1	1
KV-XA34M67	0	1	1	0	0	1	1	1
KV-XA34M97	0	1	1	0	0	1	1	1

AV Input 00 = no AV Input 01 = 1 AV Input
10 = 2 AV Input 11 = 3 AV Input
DVD Input Effective only when "AV Input" is set to 3 AV Input
Dis Fav. Disable Favorite Channel (Effective For XF-L (21" & 14") Models Only)

No. OPB2 OP3

Item	PIC Rotate*1	2199 Curve*1	Auto PIC	Auto TV sys	US ST	AV Mono*1	Forced 50/60	Colour SW*2
KV-XA29M67	0	0	1	1	0	0	0	1
KX-XA29M97	0	0	1	1	0	0	0	1
KV-XA34M67	0	0	1	1	0	0	0	1
KV-XA34M97	0	0	1	1	0	0	0	1

PIC Rotate*1 PIC Rotation Switch 0 = disabled, 1 = enabled
2199 Curve*1 2199 volume Curve Selection 0 = Others, 1 = 2199 Volume Curve.
Auto PIC*3 Auto Picture Improvement 0 = off PNC1/PNC2
1 = activate PNC1/PNC2
A-TVsys Auto TV System in Auto Program 0 = disabled, 1 = enabled
US ST* USA Stereo 0 = disabled, 1 = enabled
AV MONO*1 AV Mono model 0 = Stereo, 1 = Mono
(No Balance & Surround selection)
Forced 50/60 Forced to 50/60 Hz during no signal condition
0 =60 Hz, 1 = 50 Hz
Color SW*2 Color Data Selection in Dynamic Mode 0 = 65 (No PIP), 1 = 57 (PIP)
Note: *1 - For XA21 Models Only
*2 - For XA25/29/34 Models Only
*3 - For PNC3, the enables are from service item APG and APB.

No. OPB3 *OP4

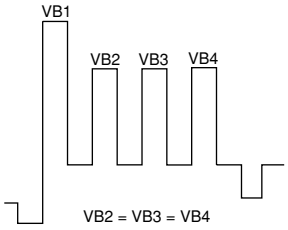
Item	PNC2	Korean ST	Vid NTSC3.58	Wide	Video3	Chinese	Arabic	Thai
KV-XA29M67	1	0	1	1	0	1	1	1
KX-XA29M97	1	0	1	1	0	1	1	1
KV-XA34M67	1	0	1	1	0	1	1	1
KV-XA34M97	1	0	1	1	0	1	1	1

APPLICABLE TO XS ONLY - Sub Language Selection (Bit 0 - Bit 2)
Korean Stereo* Korean Stereo 0 = disabled, 1 = enabled
PNC2*2 Enable switch of PNC2 0 = disable, 1 = enable
Video NTSC3.58* (NTSC3.58) Video Color System 0 = Multi System, 1 = Single System
Wide Enable wide mode 0 = disable, 1 = enable
Note : *APPLICABLE FOR NTSC MODELS ONLY

5-3. PICTURE QUALITY ADJUSTMENTS

SUB COLOR ADJUSTMENT (KV-XA29)

1. Select Video.
2. Input a PAL color-bar.
3. Set to the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Set to Service Mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust to VB2=VB3=VB4 with [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Input NTSC color-bar to set and repeat items 3 to 7.
8. Select the 'Wide' mode, write the 'same data-3 steps' for both PAL and NTSC input.



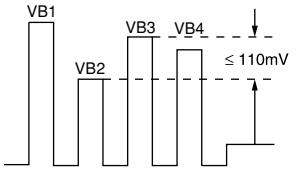
VB2 = VB3 = VB4 (Difference is within 70mV)

SUB COLOR ADJUSTMENT (KV-XA34)

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust the VB2=VB3=VB4 [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Add 6 steps and save the data.
8. Input NTSC Color Bar to TV set and repeat items 3 to 7.
9. Select "WIDE" mode, write the "SAME DATA" for PAL and NTSC Color Bar input.

SUB HUE ADJUSTMENT

1. Select Video 1.
2. Input a NTSC 3.58 color-bar, video into Video 1.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Select SAJ 1 "SHU" with [1] and [4] of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with [3] and [6].



VB1 = VB2 = VB3 = VB4

The highest level of VB1,VB2,VB3,VB4 must be aligned at the same line. Ideal difference level between VB2 and VB3 should be within ± 110mV.

6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ 1 "SHU" as step 3 to 6 when receiving TV mode.

5-4. DISPLAY POSITION ADJUSTMENT

PIP POSITION

1. Input a PAL color-bar.
2. Press PIP button of the remote commander to set the PIP picture.
3. Set to Service Mode.
4. Use 1 and 4 of the remote commander to select PIP 1 "PPH" and use 3 and 6 to set data "15".
5. Select PIP 2 "PPV" to set data "2E".
6. Press [MUTING] → [0] of the remote commander to write the data.
7. Use the screen display menu changing the PIP position to check the PIP position.

5-5. DEFLECTION ADJUSTMENT

NORMAL MODE (50Hz)

1. Select Video mode.
2. Using the [1] and [4] button, select category GEO (Service Mode).
3. Raise/lower the data using the [3] and [6] buttons. Select and adjust the following items to obtain optimum image.

Service Item

GEO :	00	HPS	H POSITION
	01	HSZ	H SIZE
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

WIDE MODE (50Hz)

4. Input PAL color bar.
5. Adjust condition change to WIDE MODE : ON.
6. Using the [1] and [4] button, select category GEO (Service Mode).

7. Copy (item from normal mode (50Hz)) adjusted data for the following item:

Service Item

GEO :	01	HSZ	H POSITION
	05	VSZ	V POSITION
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY

8. Raise/lower data using [3] and [6] buttons, select and adjust the following items to obtain optimum image.

Service Item

GEO :	00	HPS	H POSITION
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

9. After confirm WIDE MODE : ON – OFF.
10. Repeat same steps for NTSC input signal.

NORMAL MODE (60Hz)

1. Set to Service Mode.
2. Using the [1] and [4] buttons select category GEO (Service Mode).
3. Select and adjust the following items to obtain obtimum image.
   Raise/lower the data with the [3] and [6] buttons.

Service Item

GEO :	00	HPS	H POSITION
	01	HSZ	H SIZE
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

WIDE MODE (60Hz)

4. Input monoscope signal.
5. Adjust condition change to WIDE MODE: ON.
6. Using the [1] and [4] button select category GEO (Service Mode).
7. Copy (item from NORMAL MODE (60Hz)) adjusted data for the following items:

Service Item

GEO :	01	HSZ	H SIZE
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY

8. Raise/lower the data with the [3] and [6] buttons. Select and adjust the following items to obtain optimum image.

Service Item

GEO :	00	HPS	H POSITION
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

9. After confirm WIDE MODE : ON – OFF.

Note:
For Deflection Adjustment, set PICTURE MODE to "SOFT".

5-6. H-TRAPEZOID ADJUSTMENT

1. Receive cross hatch/dot signal.
2. Adjust RV1801 on C6 board to make H-Trapezoid distortion best.

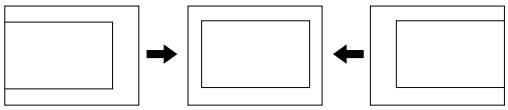
5-7. A BOARD ADJUSTMENT AFTER IC003 REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons [5] and [0] (Data Initialize), and [2] and [0] (Data Copy) to initialize the data.
3. Call each item number and check if the respective screen shows the normal picture.
   In cases where items are not well adjusted, rectify the fine adjustment.
   Write the data per each item number ([MUTING] + [0]).
4. Select item numbers “OPB00” (OP1), “OPB01” (OP2), "OPB 02" (OP3) and "OPB 03" (OP4) respectively set the bit per model with command buttons [3] and [6].
5. Press commander buttons [8] and [0] (Test Normal) to return to the data that was set on the shipment from the factory.
   (This will also cancel Service Mode.)

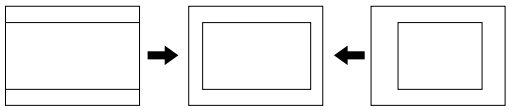
5-8. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

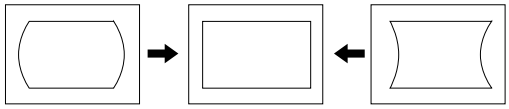
GEO 0 HPS (H POSITION)



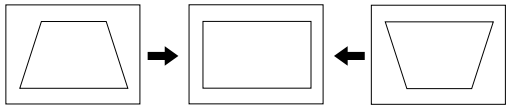
GEO 1 HSZ (H SIZE)



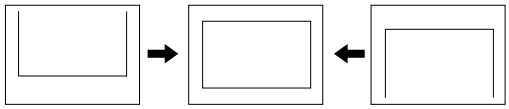
GEO 2 PAP (PIN AMP)



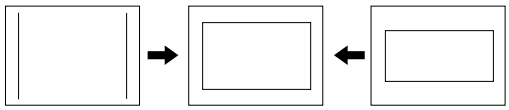
GEO 3 TLT (TRAPEZIUM)



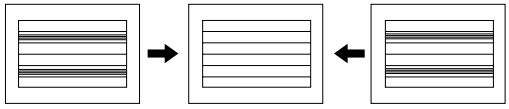
GEO 4 VPS (V POSITION)



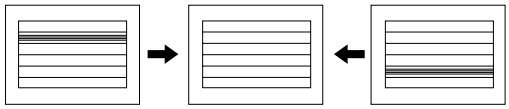
GEO 5 VSZ (V SIZE)



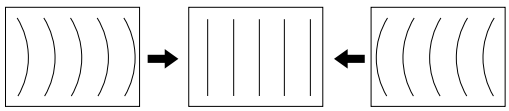
GEO 6 SCO (VERTICAL S-Correction)



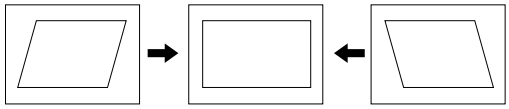
GEO 7 VLN (V LINEARITY)



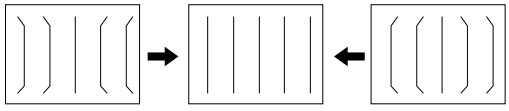
GEO 8 BOW (AFC.BOW)



GEO 9 AGL (AFC.ANGLE)

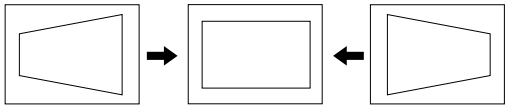


GEO 0A UPN (UPPER CORNER PIN)
GEO 0B LPN (LOWER CORNER PIN)



PICTURE DISTORTION ADJUSTMENT (2)

H-TRAPEZOID (RV1801)



MEMO

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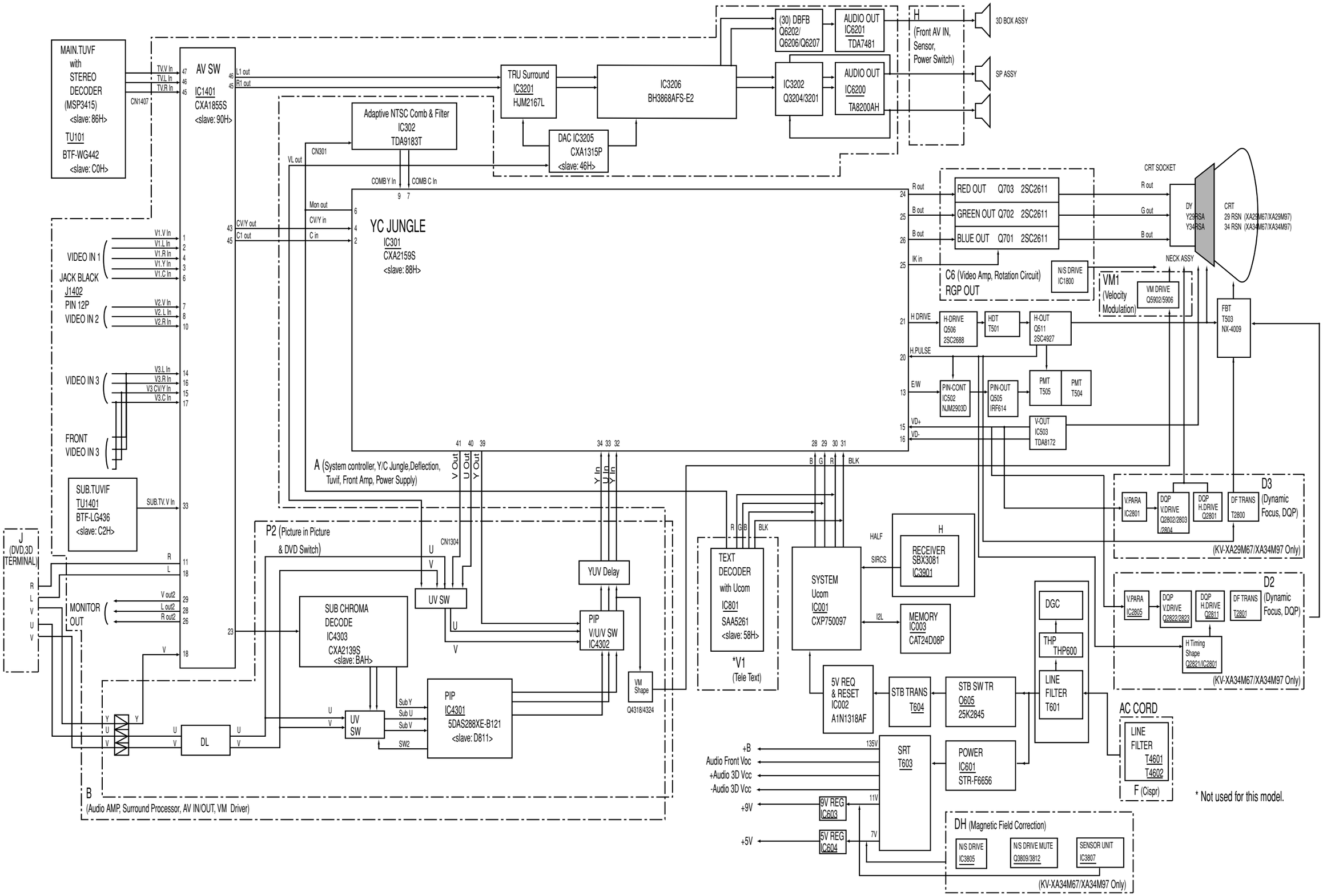
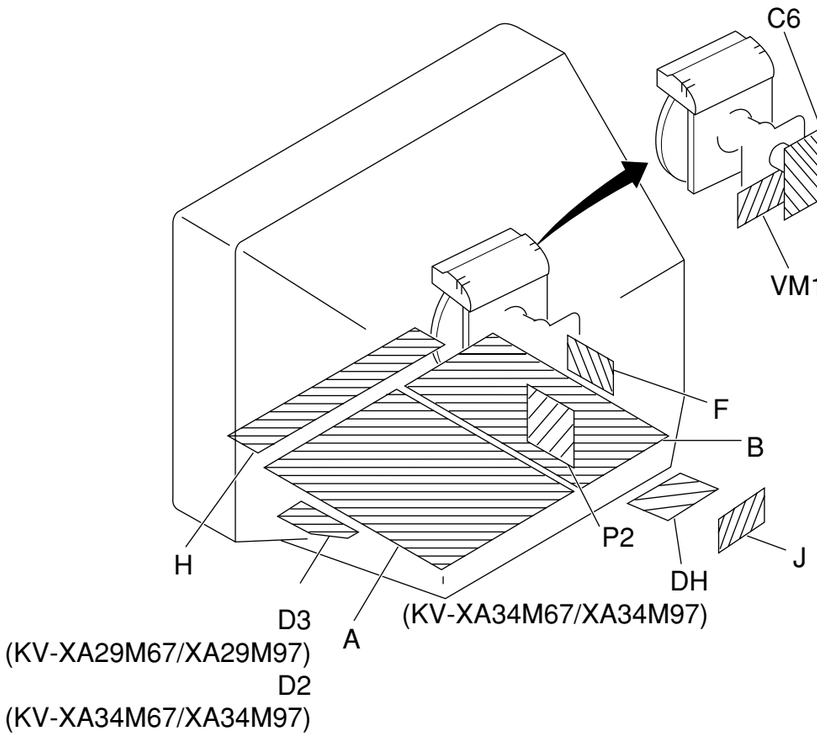
SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM



6-2. CIRCUIT BOARDS LOCATION



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6-3. SCHEMATIC DIAGRAM

Note:

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

- : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation or adjustment for rrepair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Redings are taken with a color-bar signal input.**
  no mark : Common
  underline : PAL
  ( ) : SECAM
  [ ] : NTSC 3.58
  << >> : NTSC 4.43
- **Readings are taken with a 10 MΩ digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in Volt.**
- ✻ **: Cannot be measured.**
- **Circled numbers are waveform references.**
- **: B +bus.**
- **: B –bus.**
- ⇨ **: signal path.**

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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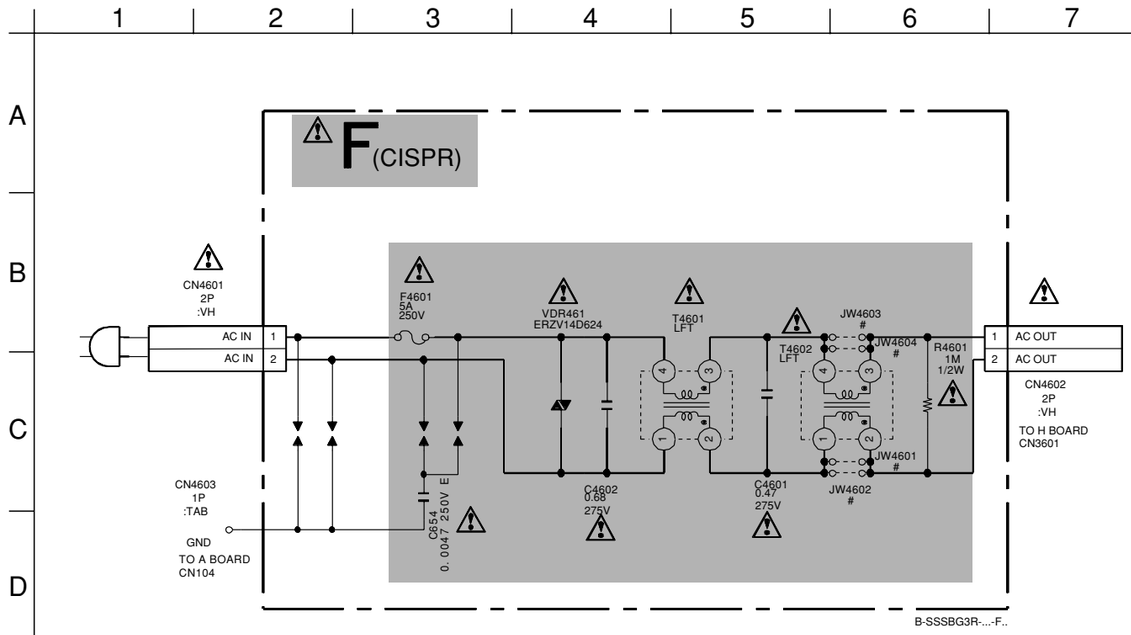
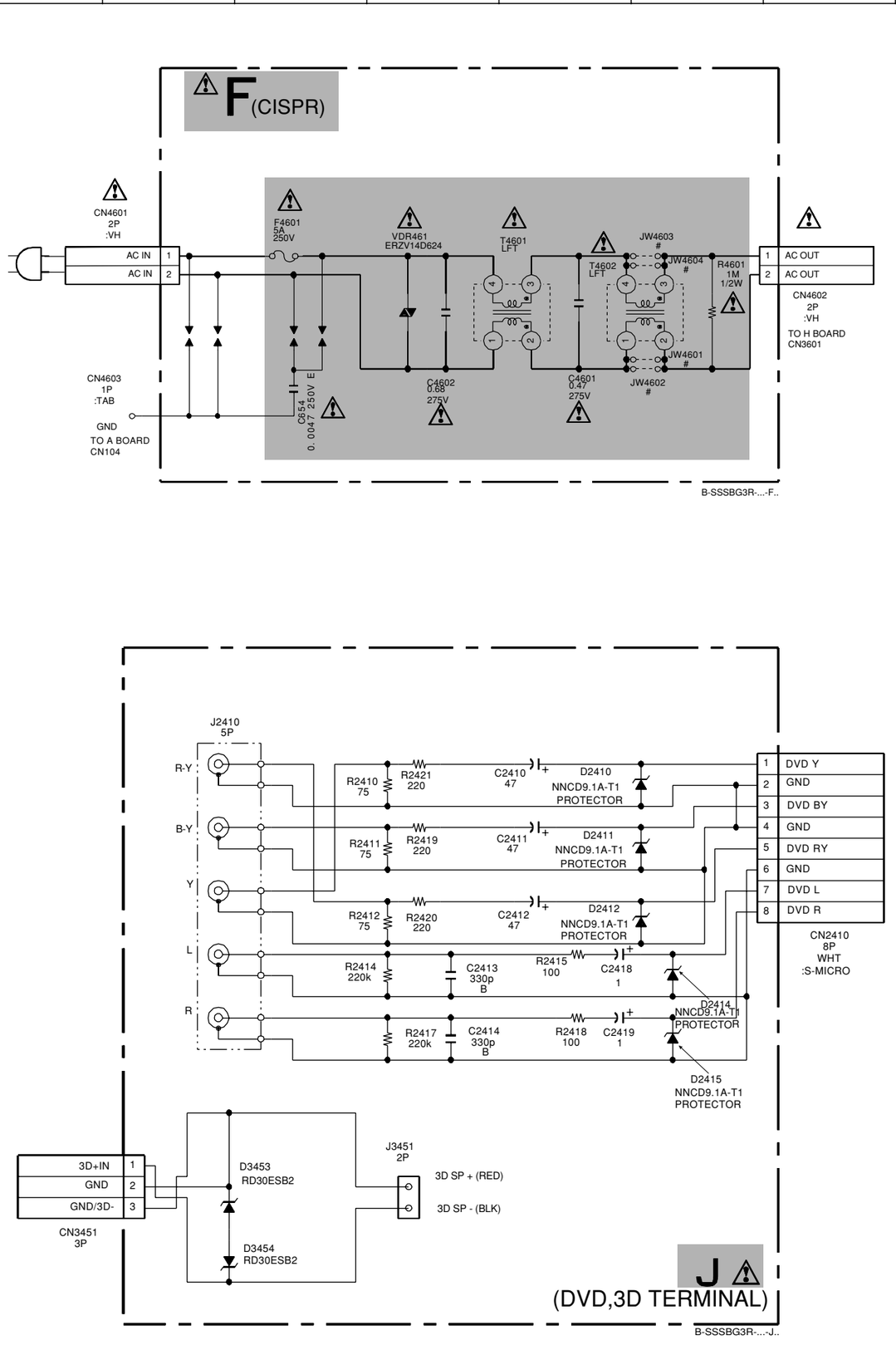
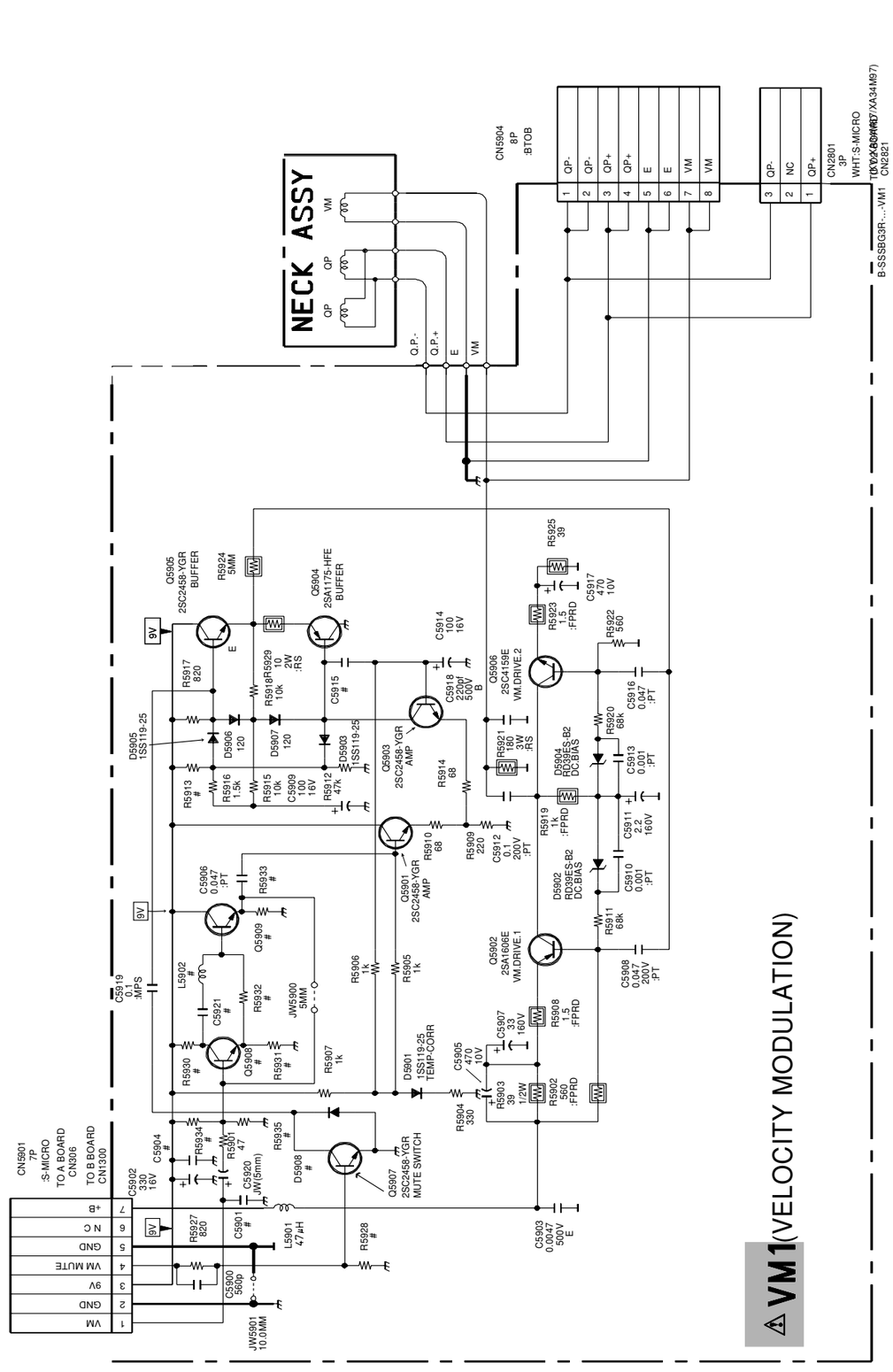
(1) Schematic Diagrams of F, J and VM1 Boards







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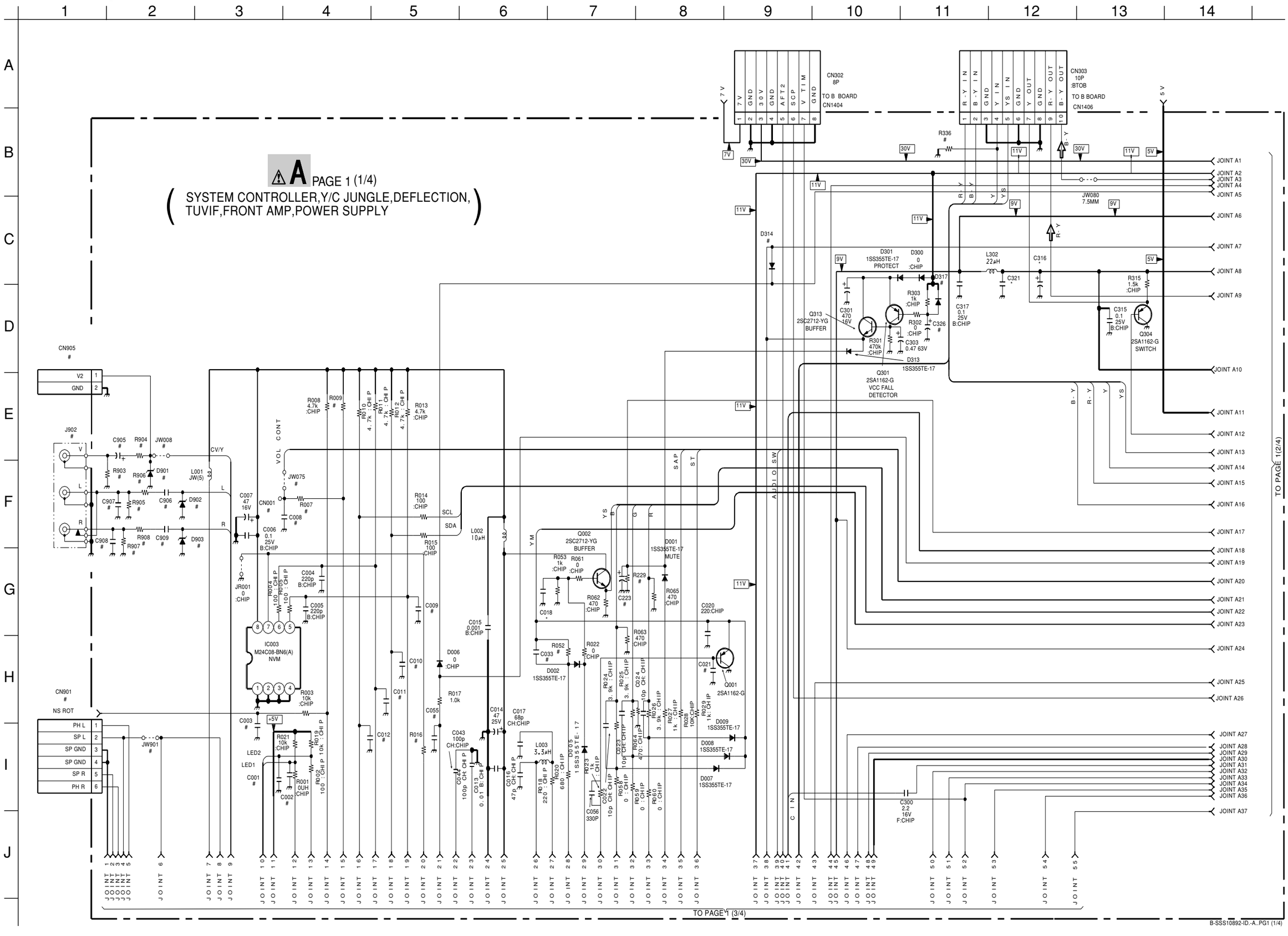
(2) Schematic Diagram of A Board



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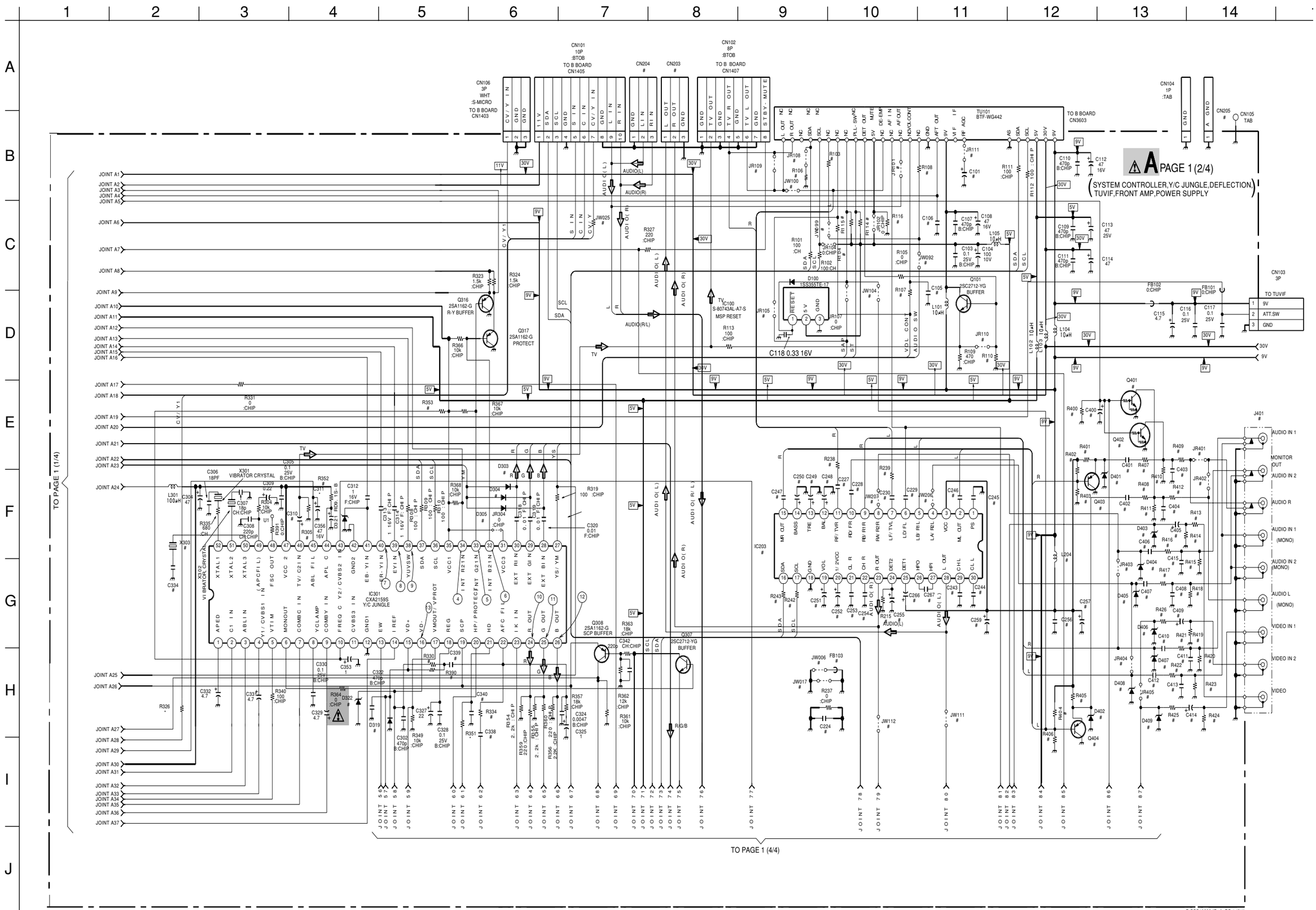

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(SYSTEM CONTROLLER,Y/C JUNGLE,DEFLECTION,
TUVIF,FRONT AMP,POWER SUPPLY)

IC001
CXP750097-032S
SYSTEM
CONTROLLER

IC002
MM1319AFBE
RESET SUREG

IC302
TDA9181T
COMB FILTER

X001
CST10.00MX
VIBRATOR,CERAMIC

Q302
2SC2712-YG
AMPLIFIER

Q303
2SA1162-G
BUFFER

Q306
2SC2712-YG
AMPLIFIER

Q305
2SA1162-G
BUFFER

Q311
2SC2712-YG
INVERTER

Q312
2SA1162-G

Q310
2SC2712-YG
SSC DRIVER

Q309
UN2213
SWITCH

Q314
2SA1162-G
BUFFER

Q901

Q902

Q005

D004
0
:CHIP

D315

D316

CN904
9P
WHT
:S-MICRO
TO H BOARD
CN3905

CN306
4P
WHT
:S-MICRO
TO VM1 BOARD
CN5901

JOINT A38
JOINT A39
JOINT A40
JOINT A41
JOINT A42
JOINT A43
JOINT A44
JOINT A45
JOINT A46
JOINT A47
JOINT A48
JOINT A49
JOINT A50
JOINT A51
JOINT A52
JOINT A53
JOINT A54
JOINT A55
JOINT A56
JOINT A57
JOINT A58
JOINT A59

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STBY 7V
ST- BY
NS MUTE
ABL
11V
+B

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TUVIF,FRONT AMP,POWER SUPPLY

TO PAGE 1 (2/4)

TO PAGE 1 (3/4)

JOINT A38
JOINT A39
JOINT A40
JOINT A41
JOINT A42
JOINT A43
JOINT A44
JOINT A45
JOINT A46
JOINT A47
JOINT A48
JOINT A49
JOINT A50
JOINT A51
JOINT A52
JOINT A53
JOINT A54
JOINT A55
JOINT A56
JOINT A57
JOINT A58
JOINT A59

D312 1SS355TE-17
D311 1SS355TE-17
D320 RD9.1S-B
D308 1SS355TE-17 PROTECT
D307 1SS355TE-17 PROTECT
D306 1SS355TE-17 PROTECT
D309 RD5.1SB-T2 PROTECT
Q315 UN2213 SWITCH
R377 1M :CHIP
R333 #
R306 #
R370 220 :CHIP
R376 22k :CHIP
R322 220 :CHIP
R332 220 :CHIP
R350 -
C337 22 63V
R358 1k :CHIP
C357 0.1 25V B:CHIP
R381 0 :CHIP
L303 100uH
C351 10
U1
FB300 0UH
R325 #
JR308 0 :CHIP
R365 220 :CHIP
R375 #
AUDIO(R/L)
SDA
SCL
R225 220 :CHIP
R226 220 :CHIP
R227 220 :CHIP
CN202 4P WHT :MINI
4 GND
3 B-INT
2 SDA
1 SCL

IC201 #
GND GND/NF2 NF2/RIN RIN LIN NF1 RIPPLE VCC2 GND BS1 LOUT VCC1 ROUT BS2
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Q201 #
Q202 #
Q203 #
Q204 #
Q205 #
Q206 #
Q207 #
D203 #
PS200 #
JW203 #
JR204 #
JW202 #
JW205 #
JW204 #
JR202 #
JR203 #
JW20 #

R228 # C219 #
C216 #
C215 #
C218 #
R234 #
R231 #
C213 #
C212 #
R214 #
R213 #
C220 #
C221 #
C214 #
C217 #
R212 #
R211 #
R210 #
R209 #
R207 #
R206 #
R205 #
R204 #
R203 #
R208 #
C264 #
C225 #
C203 #
C265 #
C202 #
C207 #
C209 #
C210 #
C211 #
C208 #
C205 #
C206 #
C204 #
C226 #

R
G
B
YS
B
G
R
AUDIO (R)
AUDIO (L)

CN310 2P TO U1
1 GND
2 FSC

CN305 6P WHT :S-MICRO TO C6 BOARD CN703
6 9V
5 IK
4 GND
3 R
2 G
1 B

CN301 #
7 7V
6 CVBS
5 GND
4 GND
3 SCP
2 VP
1 GND

CN308 # TO B6 BOARD CN8401
4 9V
3 A GND
2 CVSS
1 MOMUTE

CN307 #
7 SCL
6 SDA
5 GND
4 BLK
3 BLUE
2 GREEN
1 RED

CN309 #
3 GND
2 CVBS

CN201 5P WHT :S-MICRO TO B BOARD CN6206
7 ROUT
6 GND
5 LOUT
4 GND
3 PROT
2 MUTE
1 9V

CN608 4P TO B BOARD CN6200
AUDI - GND
1 AUD GND
2 AUD GND
3 AUD +VCC
4 AUD +VCC
AUDI +VCC

CN107 # TO B6 BOARD CN8403
3 VIDEO 1
2 V GND
1 VIDEO 1

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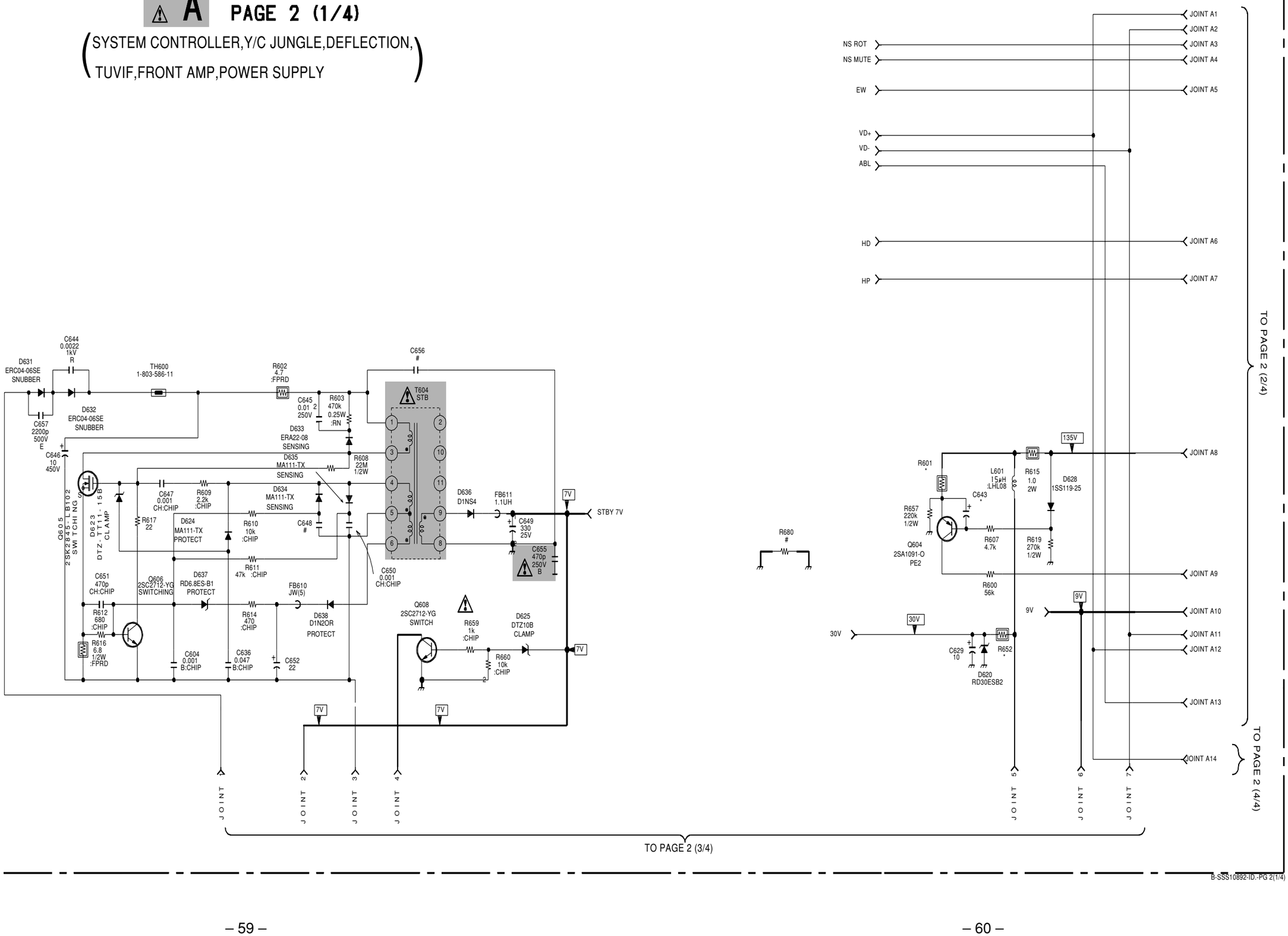
⚠ A PAGE 2 (1/4)

(SYSTEM CONTROLLER,Y/C JUNGLE,DEFLECTION,
TUVIF,FRONT AMP,POWER SUPPLY)



B-SS10892-ID.-PG 2(1/4)

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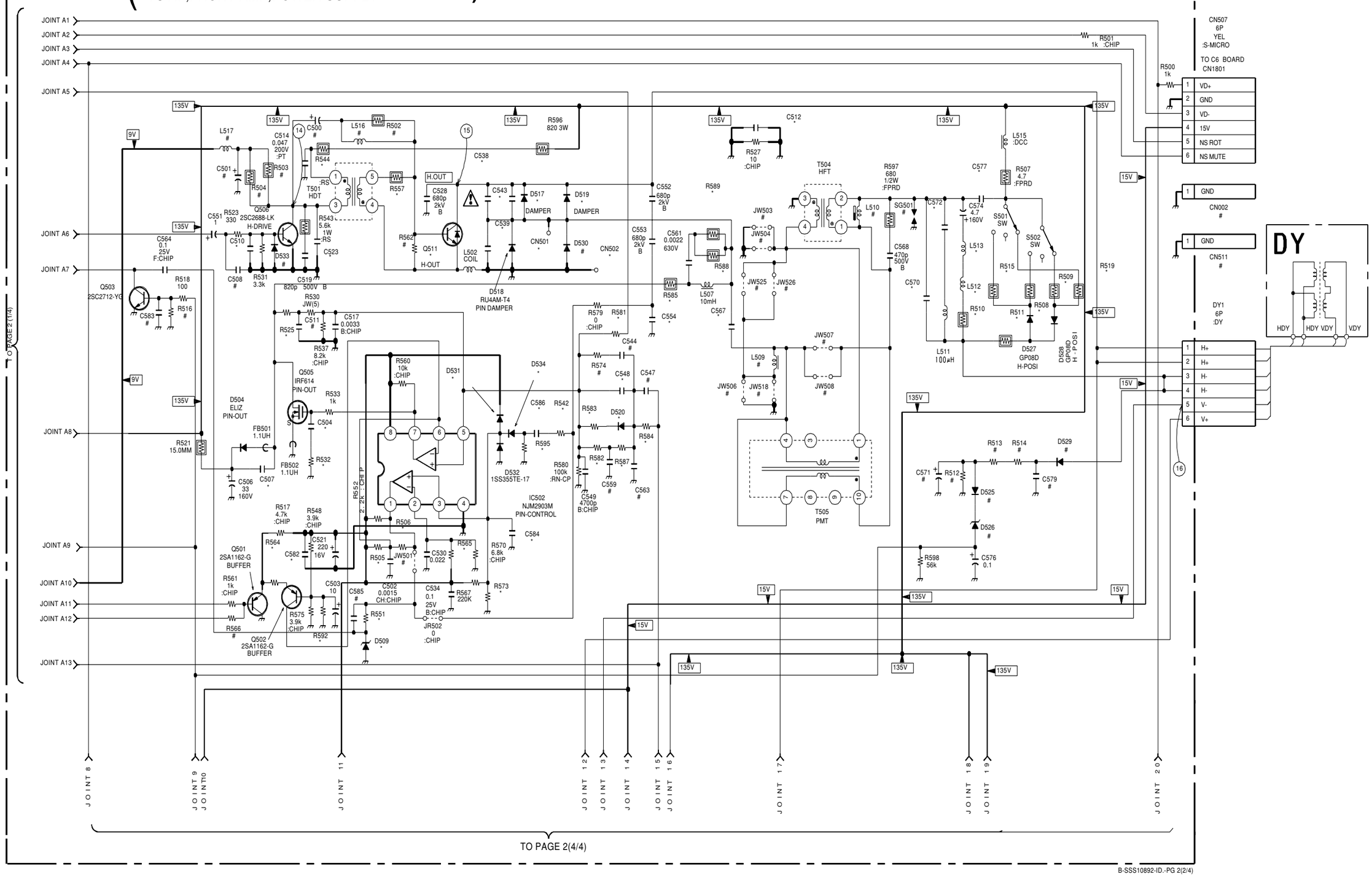
A PAGE 2 (2/4)

(SYSTEM CONTROLLER,Y/C JUNGLE,DEFLECTION,
TUVIF,FRONT AMP,POWER SUPPLY)



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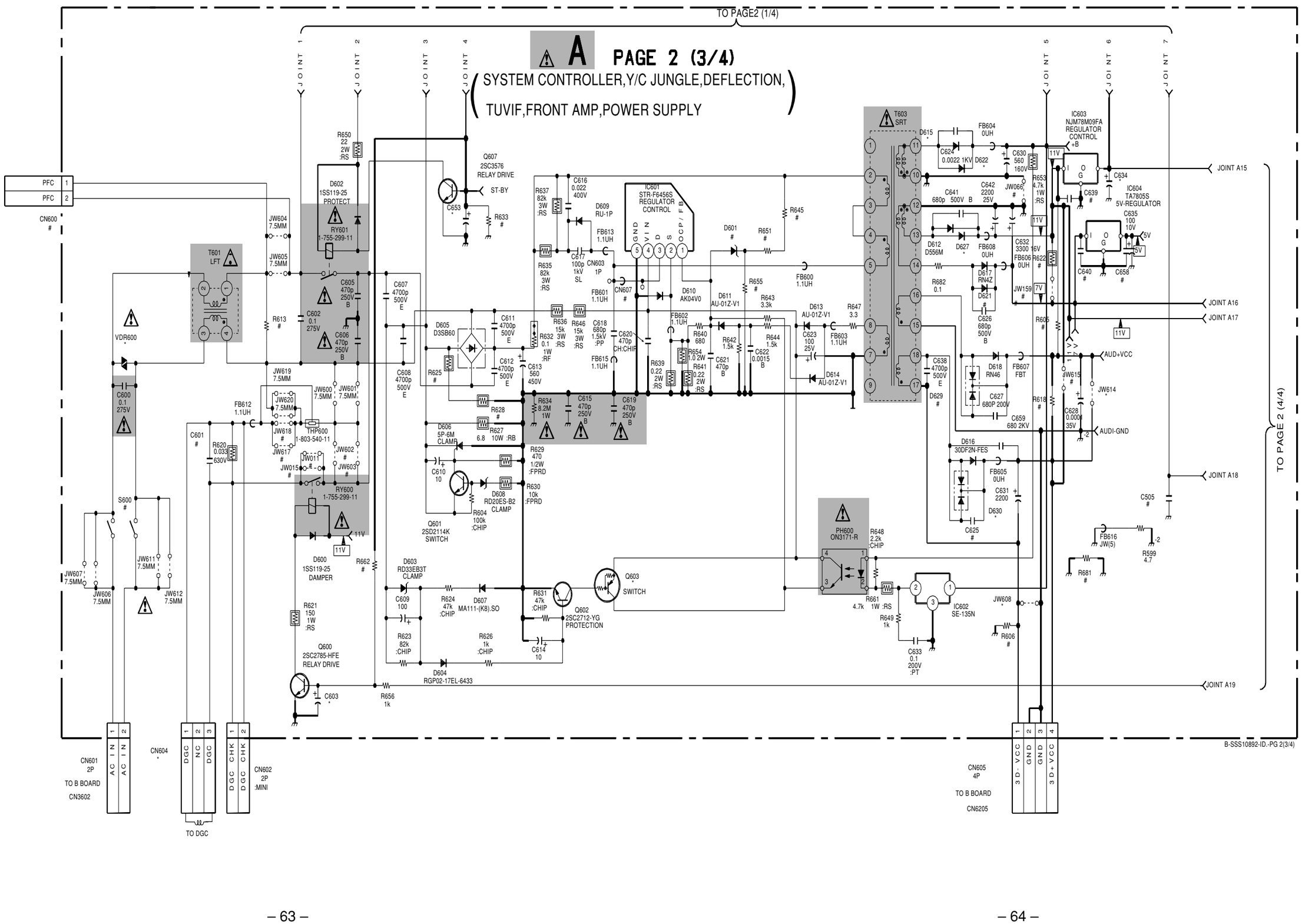
A PAGE 2 (3/4)

(SYSTEM CONTROLLER,Y/C JUNGLE,DEFLECTION, TUVIF,FRONT AMP,POWER SUPPLY)



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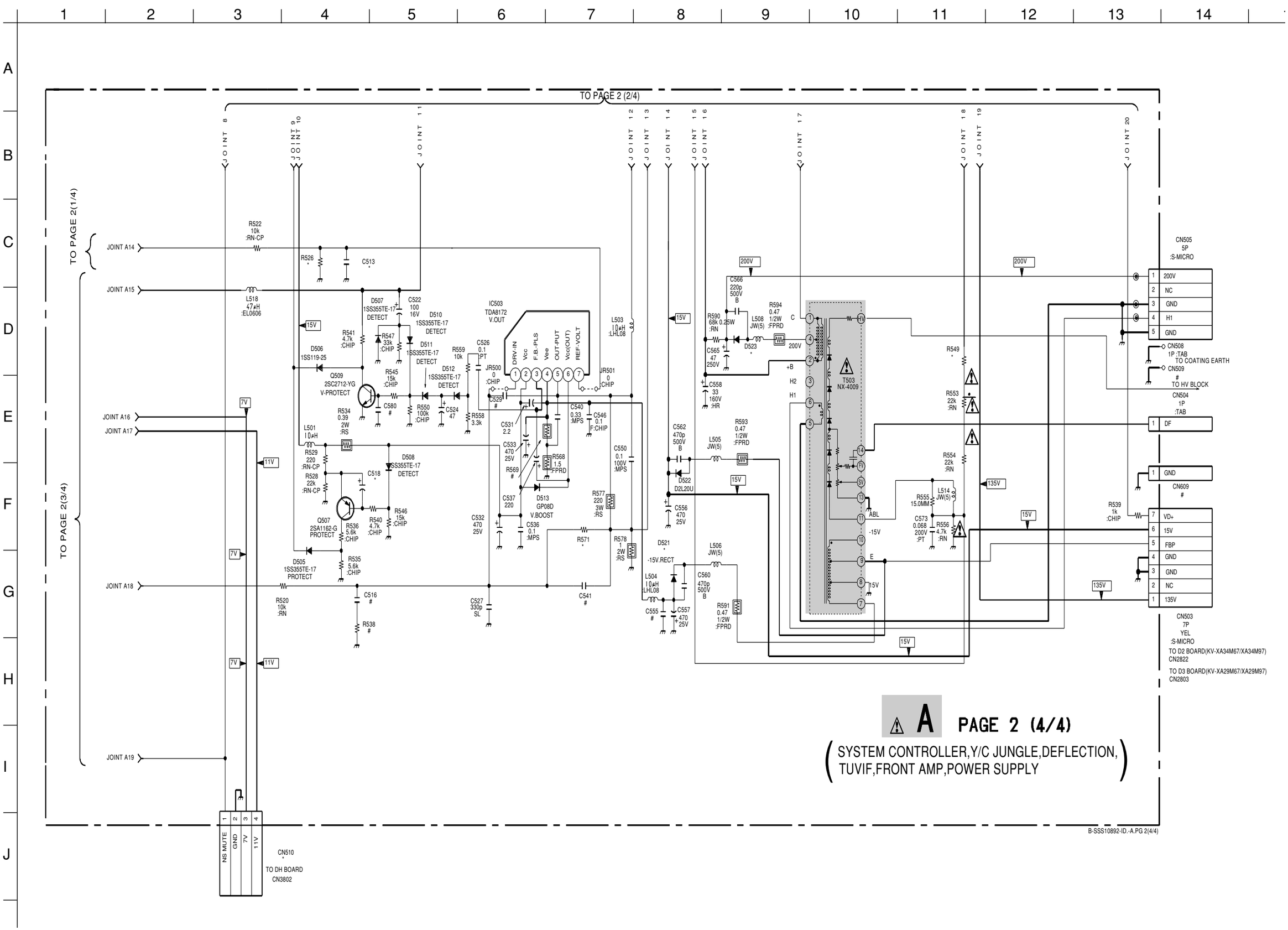

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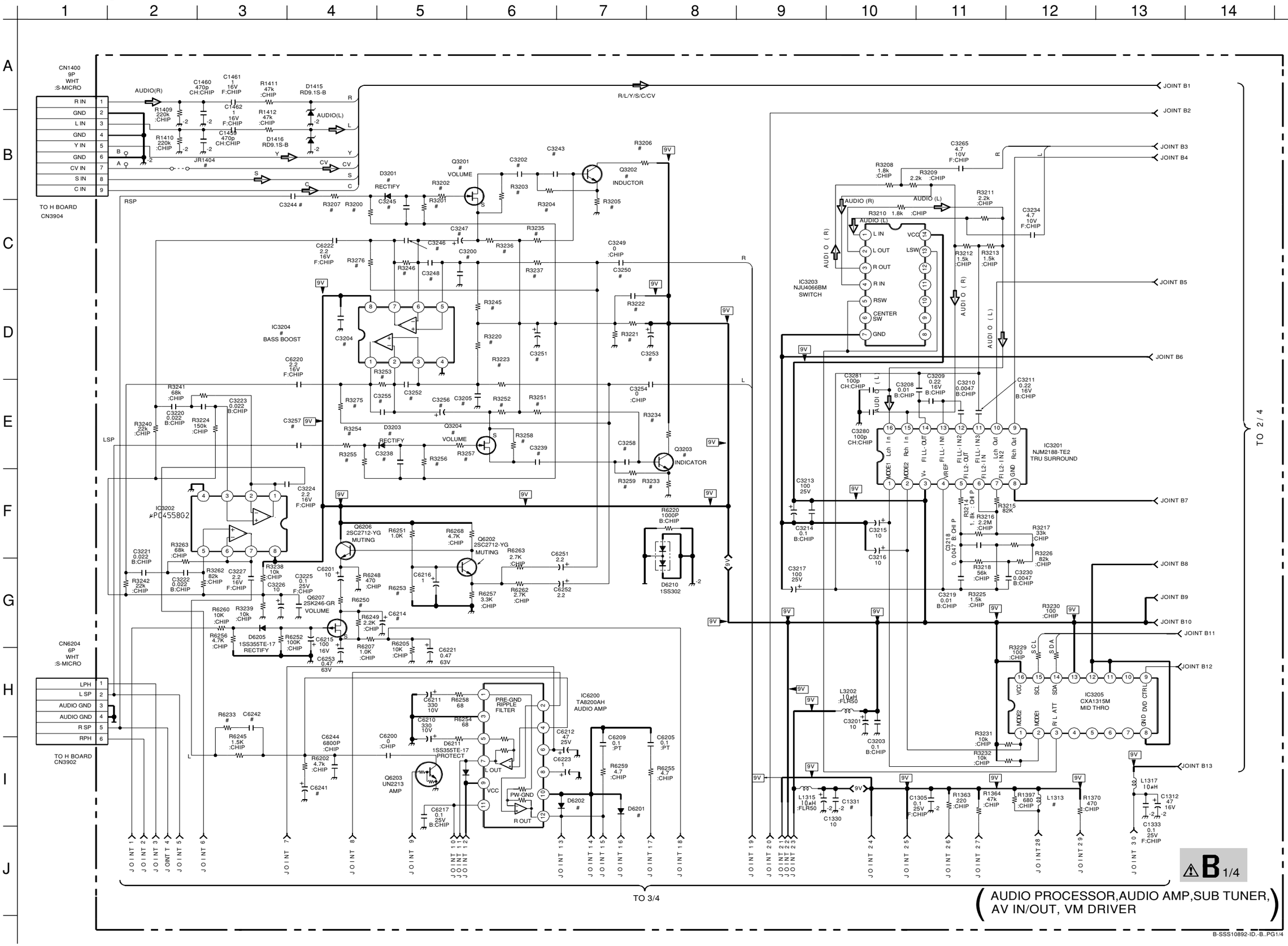
(3) Schematic Diagram of B Board



KV-XA29M67/XA29M97/XA34M67/XA34M97
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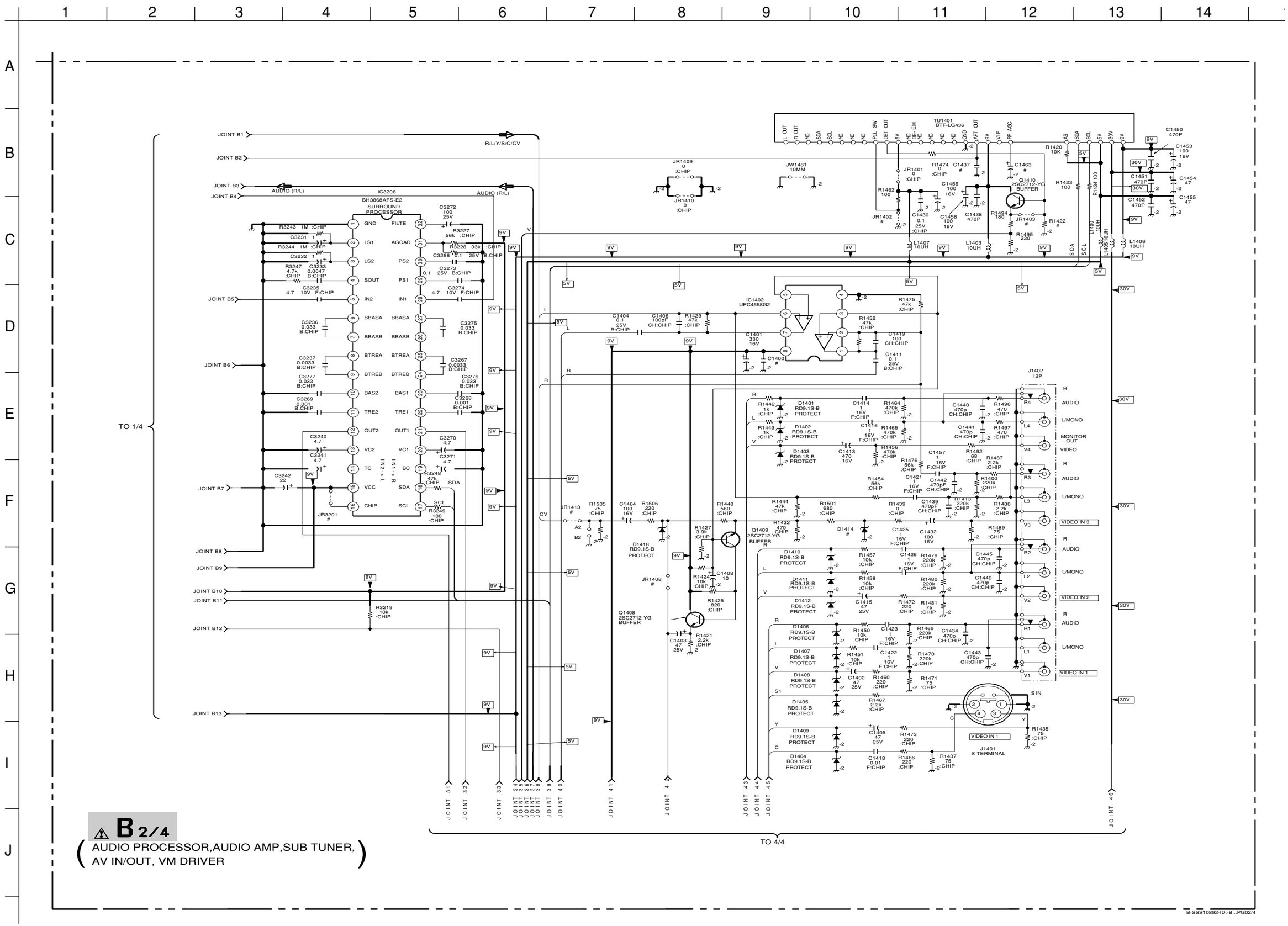
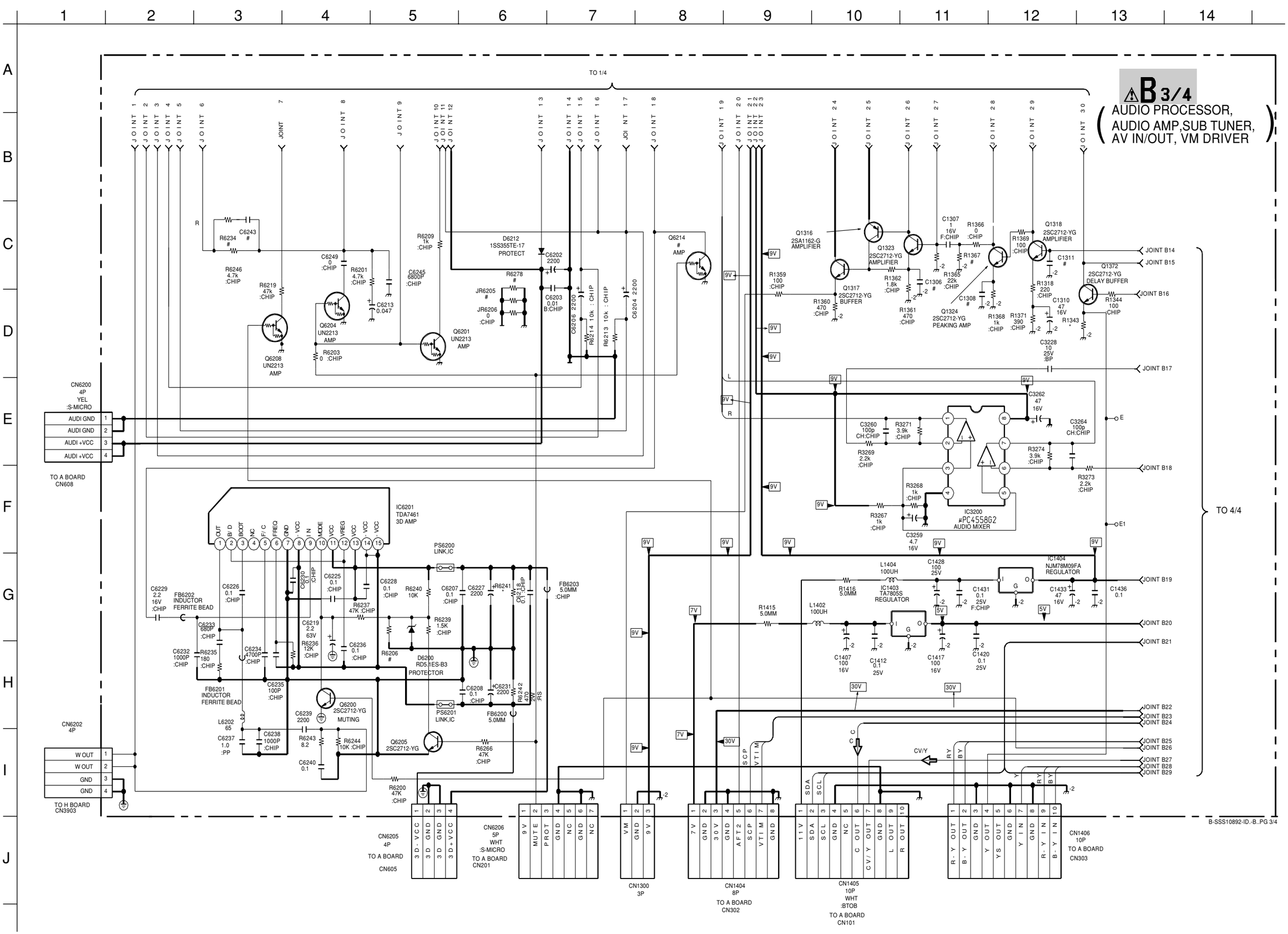


B 2/4

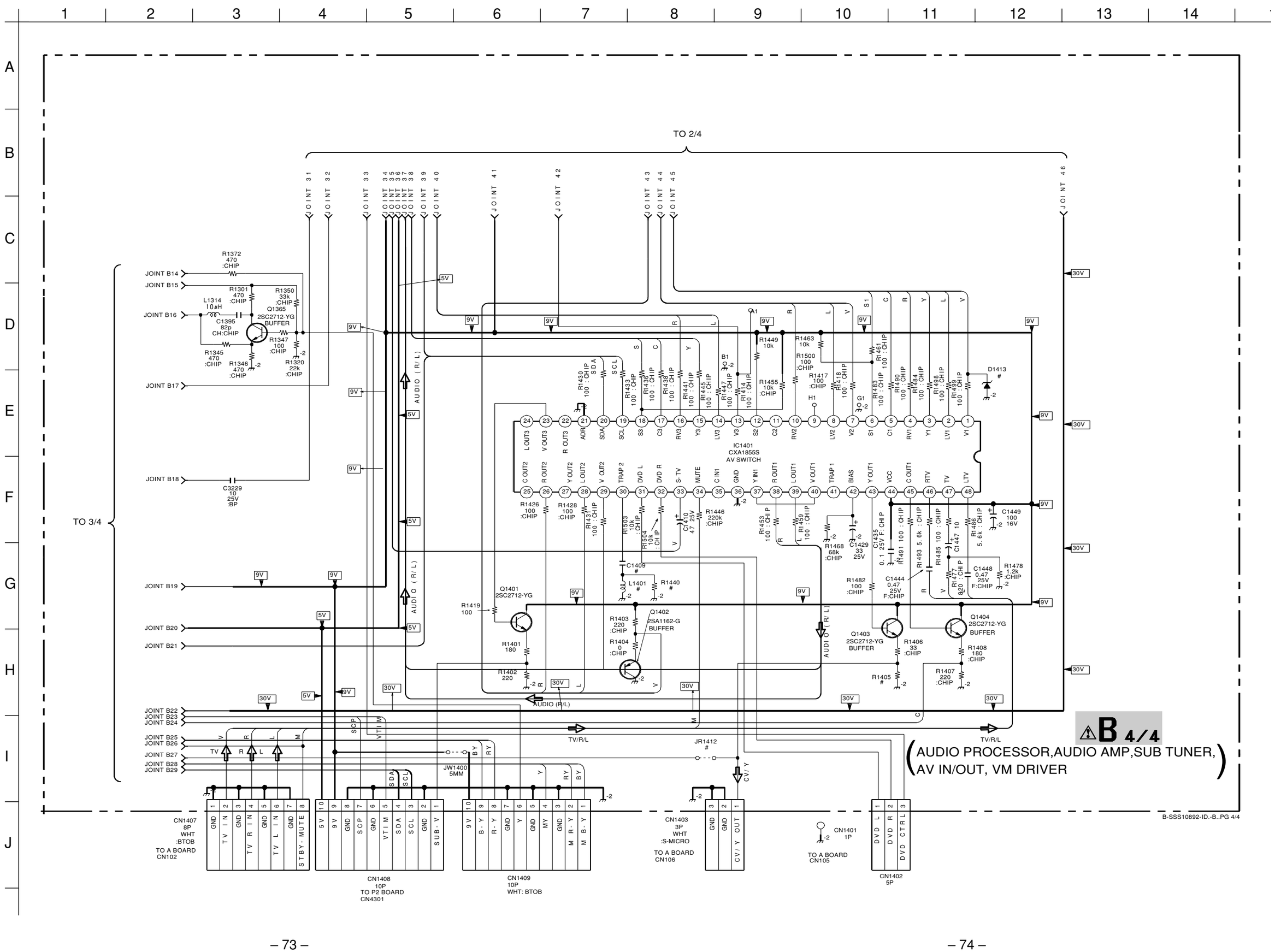
(AUDIO PROCESSOR,AUDIO AMP,SUB TUNER,
AV IN/OUT, VM DRIVER)

B-SSS10892-ID.-B...PG02/4

KV-XA29M67/XA29M97/XA34M67/XA34M97
RM-953

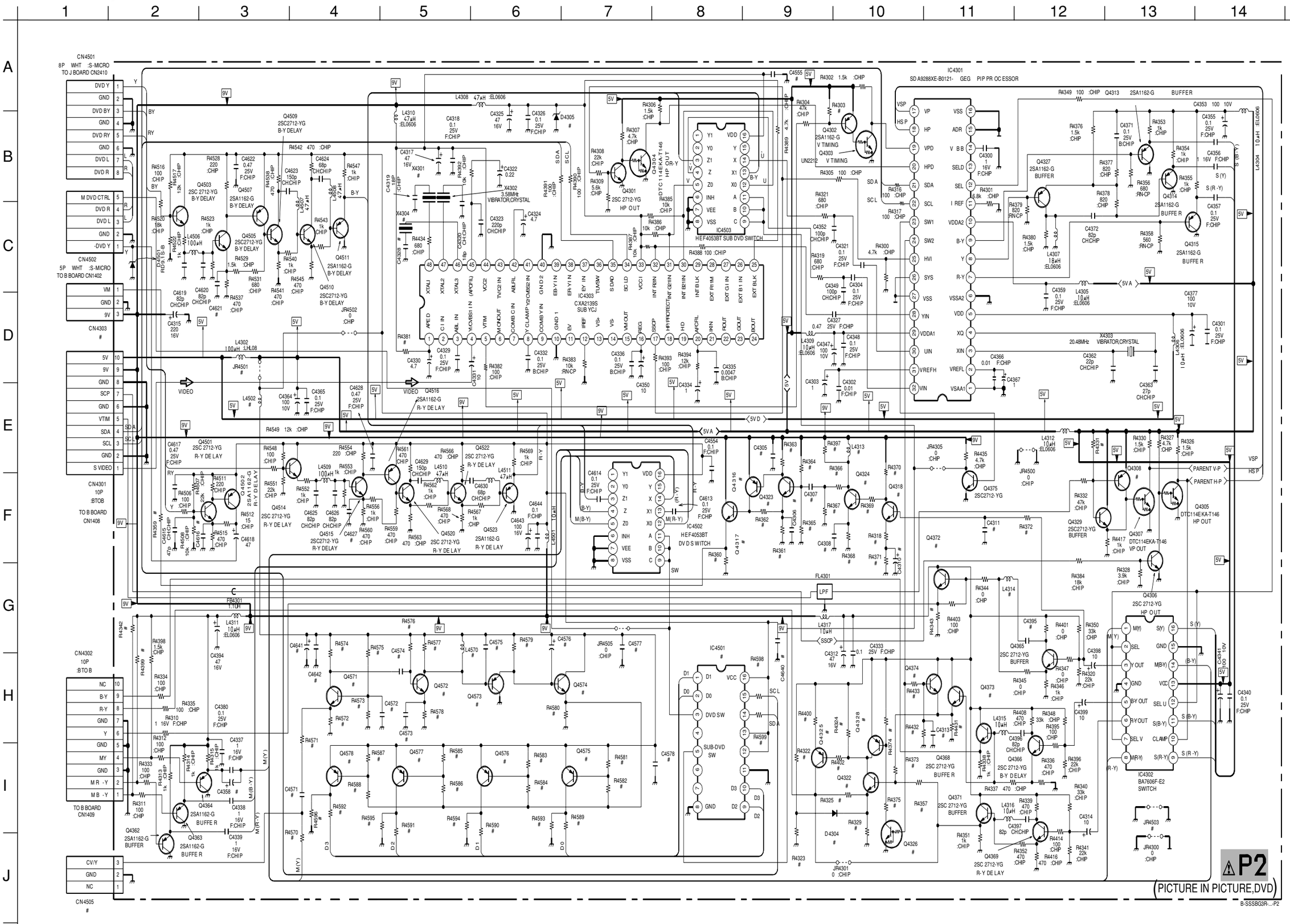


KV-XA29M67/XA29M97/XA34M67/XA34M97
RM-953



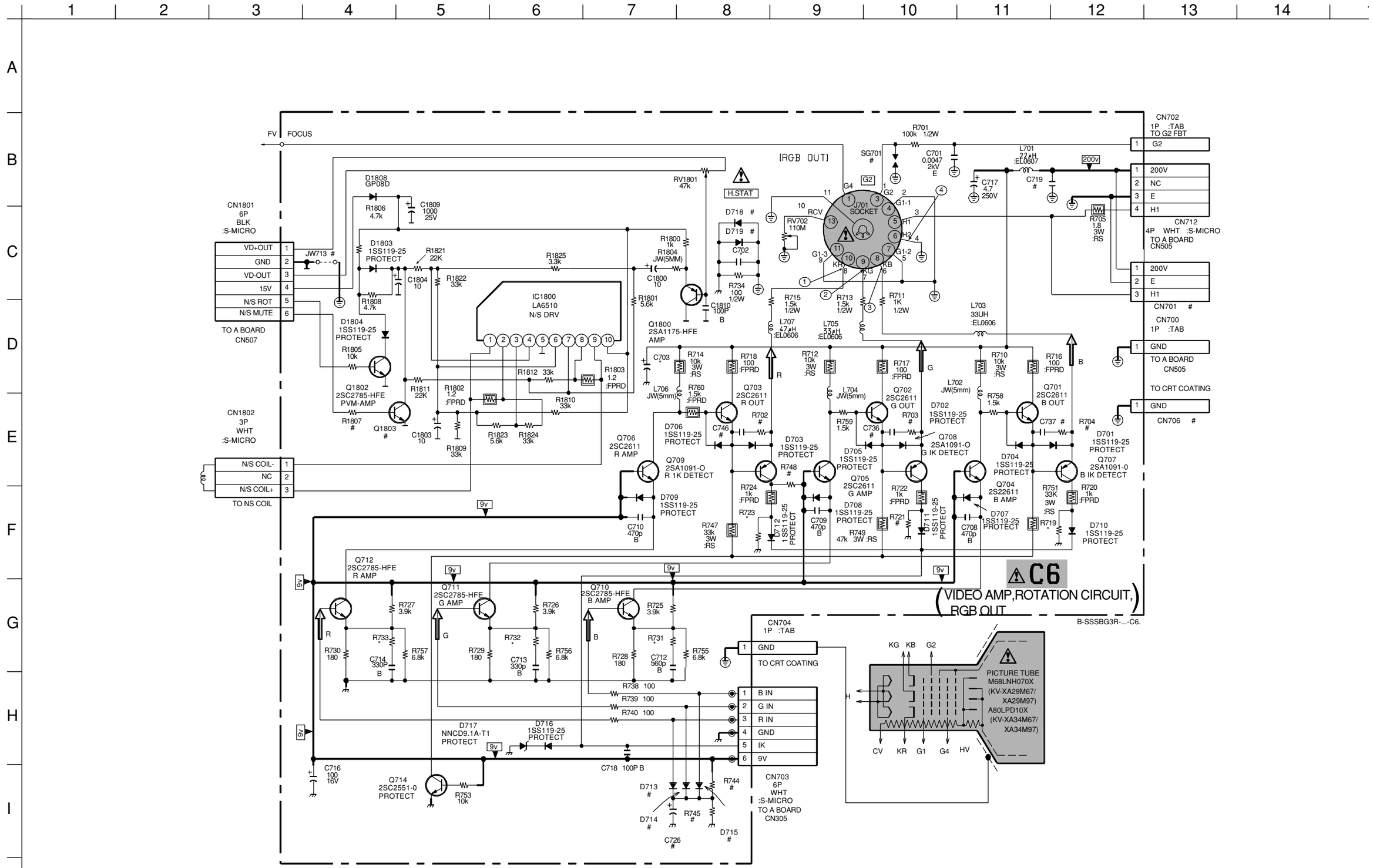
KV-XA29M67/XA29M97/XA34M67/XA34M97
RM-953

(4) Schematic Diagram of P2 Board



KV-XA29M67/XA29M97/XA34M67/XA34M97
RM-953

(5) Schematic Diagram of C6 Board



KV-XA29M67/XA29M97/XA34M67/XA34M97
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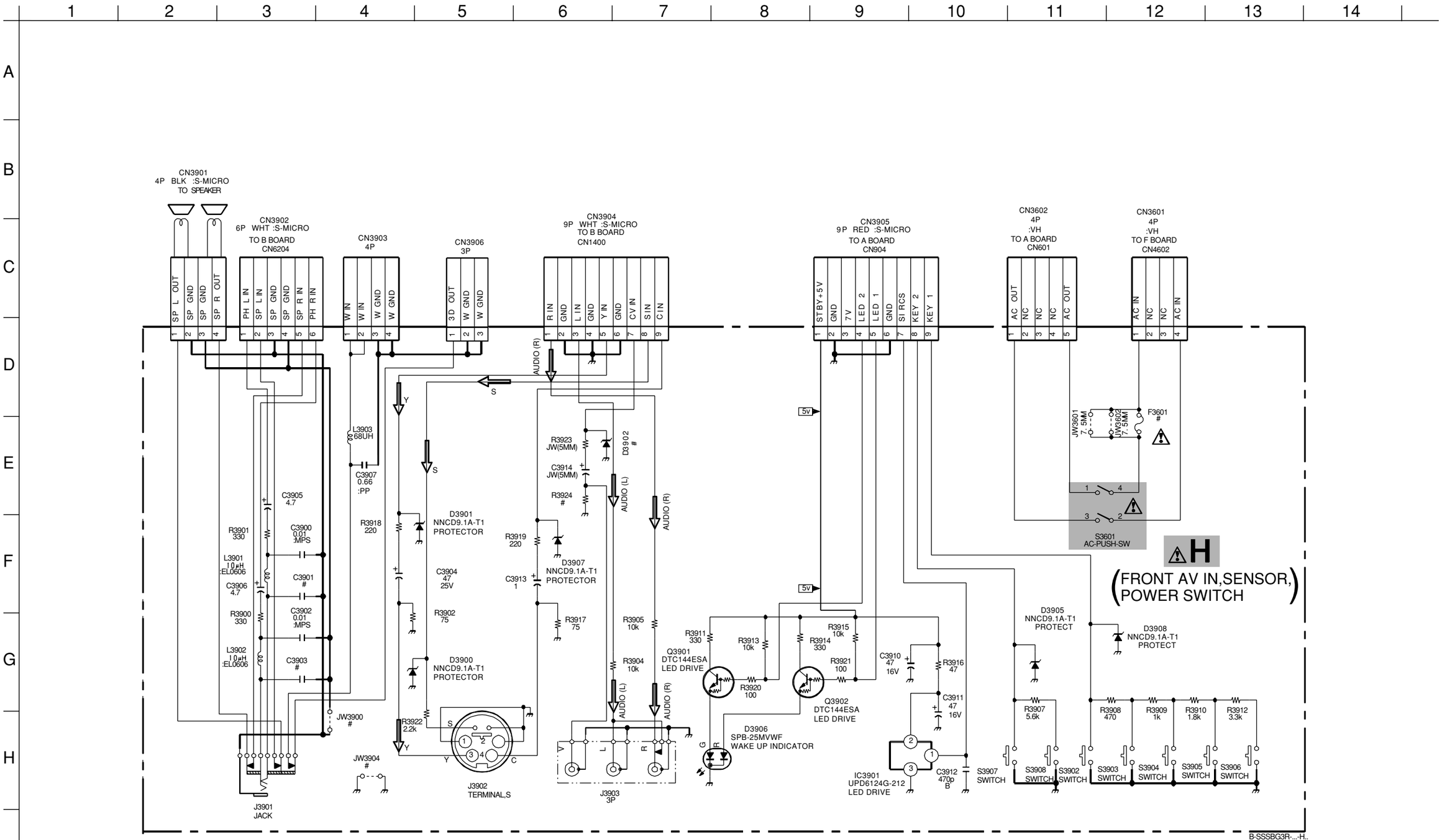
(6) Schematic Diagram of H Board



KV-XA29M67/XA29M97/XA34M67/XA34M97
RM-953

(7) Schematic Diagram of D2 Board

(FOR KV-XA34M67/XA34M97)

CN2822 7P WHT :S-MICRO
TO A BOARD CN503
VD+ 7
15V 6
FBP 5
GND 4
GND 3
NC 2
135V 1

C2829 0.0022 B:CHIP
L2803 33mH :LHL08
C2830 0.0056 :PT
R2858 1.2k :CHIP
R2859 2.2k :CHIP
C2832 1
R2867 39k :CHIP
R2872 2.2k :CHIP
Q2821 2SC2712-YG
C2833 0.0022 :PT
C2835 0 :CHIP
R2866 10k :CHIP
R2871 2.2k :CHIP
R2874 33k :CHIP
C2806 0.0047 400V :MPS
C2805 47 25V
R2809 10k :CHIP
R2816 100k :CHIP
D2801 MA111-(K8).S0 BIAS
C2803 680p :PT
R2803 2.2k :CHIP
R2801 1.2k :CHIP
R2804 470 :CHIP
Q2802 2SA1162-G DQPV.MOD
IC2801 NJM2903M DF/DQP.AMP
C2801 0.0047 :PT
C2901 10
R2820 47k :CHIP
R2900 47k :CHIP
R2889 150k :CHIP
S2801 SWITCH
R2831 4.7k 1W :RS
R2821 390 :FPRD
R2834 4.7k 1W :RS
R2830 15k 2W :RS
R2825 330 :CHIP
Q2806 2SC2712-YG DQPV.MOD
L2801 10mH :LHL10
C2818 0.0027 630V :PP
C2817 220p 500V B
D2804 D1NL20U-TR DUMPER
R2840 100k :CHIP
C2814 10
Q2805 2SA1162-G DQPV.MOD
R2902 47k :CHIP
R2824 10 :FPRD
Q2807 2SC3840K DF.OUT
R2827 470 :CHIP
C2822 0.022 250V :MPS
R2844 100k :CHIP
R2843 100k :CHIP
R2883 5.6k :CHIP
C2809 10
R2812 100k :CHIP
R2806 2.2k :CHIP
C2900 0.0056
JR2900 #
IC2806 NJM2903M COMPARATOR
R2885 47k :CHIP
R2886 3.9k :CHIP
C2842 0.0033
R2901 47k :CHIP
R2887 1k :RN-CP
R2888 1k :CHIP
Q2824 2SB734-34
D2815 1SS119-25
D2816 1SS119-25
D2814 11EQS04 PROTECT
C2811 0.47 160V
C2813 10 160V
C2810 470p 500V B
R2833 3.9k 2W :RS
C2819 47 25V
IC2803 NJM78M09FA 9V-REG
R2839 22k :CHIP
C2824 47 25V
R2850 #
R2853 #
L2802 10mH
C2840 0.082 100V :MPS
C2825 0.01 630V :PP
D2806 EL1Z
Q2811 IRF614 DQP.OUT
L2806 15mH :LHL10
C2837 0.01 B
R2838 10k :RN-CP
C2820 10 16V :BP
C2826 0.47 :MPS
R2879 22k :CHIP
R2880 10k :CHIP
R2882 6.8k :CHIP
R2878 22k :CHIP
R2881 #
C2843 10 16V :BP
I C 2 8 0 5 BA10358F-E2 V-PARA.AMP
R2862 270k :CHIP
R2861 270k :CHIP
C2831 #
D2811 #
R2869 470k :CHIP
C2834 0.1 100V :MPS
R2857 6.8k :RN-CP
C2828 10 16V :BP
R2860 2.2k :CHIP
C2826 0.47 :MPS
T2801
CN2823 1P :TAB
TO A BOARD CN504
1 DF
CN2821 3P WHT :S-MICRO
3 QP -
2 NC
1 QP +
D2813 MA111-(K8).S0 DQPV.MOD
R2877 12 1W :RS
R2847 1k :CHIP
Q2822 2SA1162-G
Q2823 2SC4793 DQPV.MOD
Q2813 2SC2712-YG
R2846 2.2k :CHIP
C2841 1 :MPS
B-SSSBG3R-...-D2.

⚠ D2
(DF,DQP DRIVE)

KV-XA29M67/XA29M97/XA34M67/XA34M97
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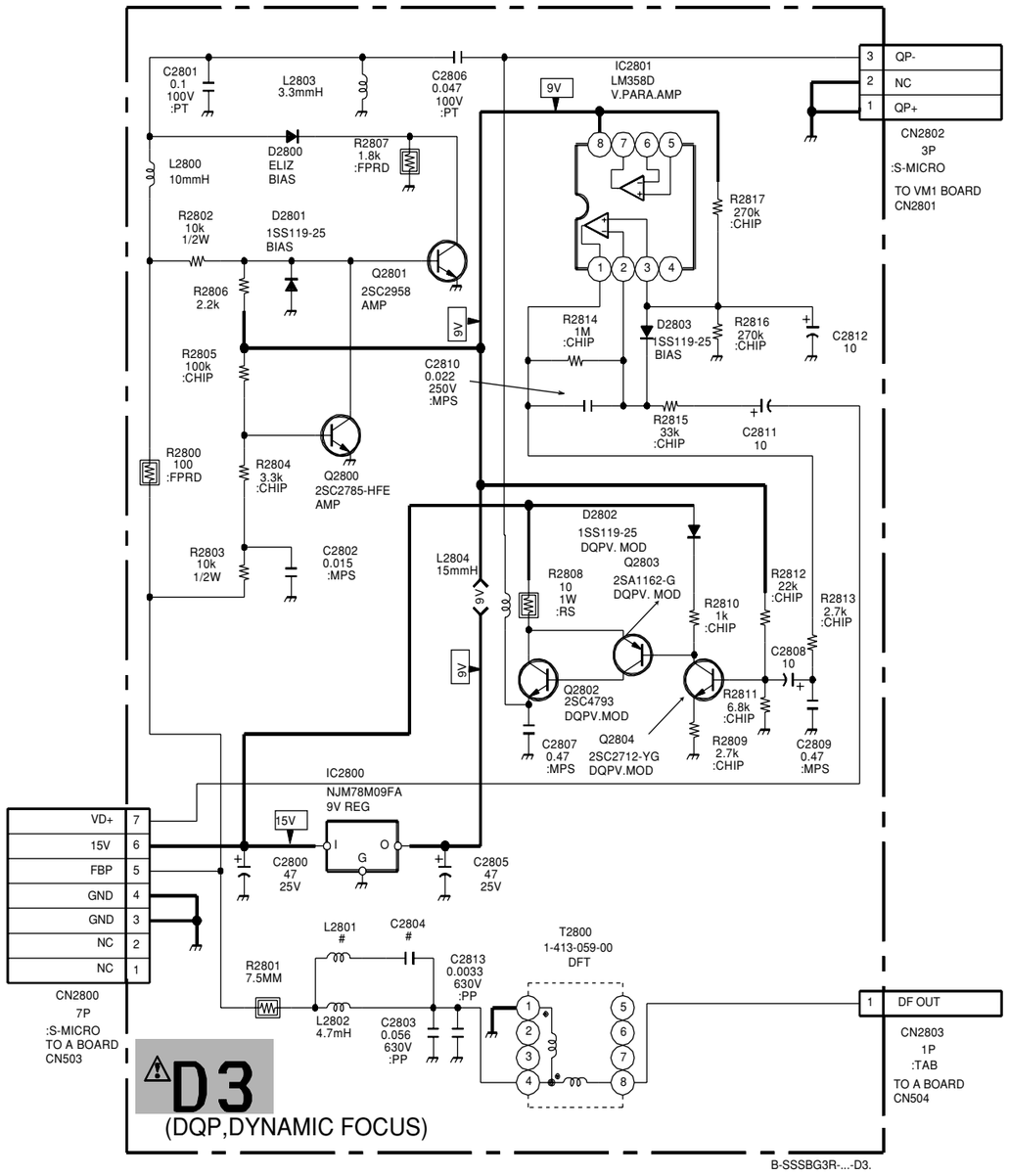
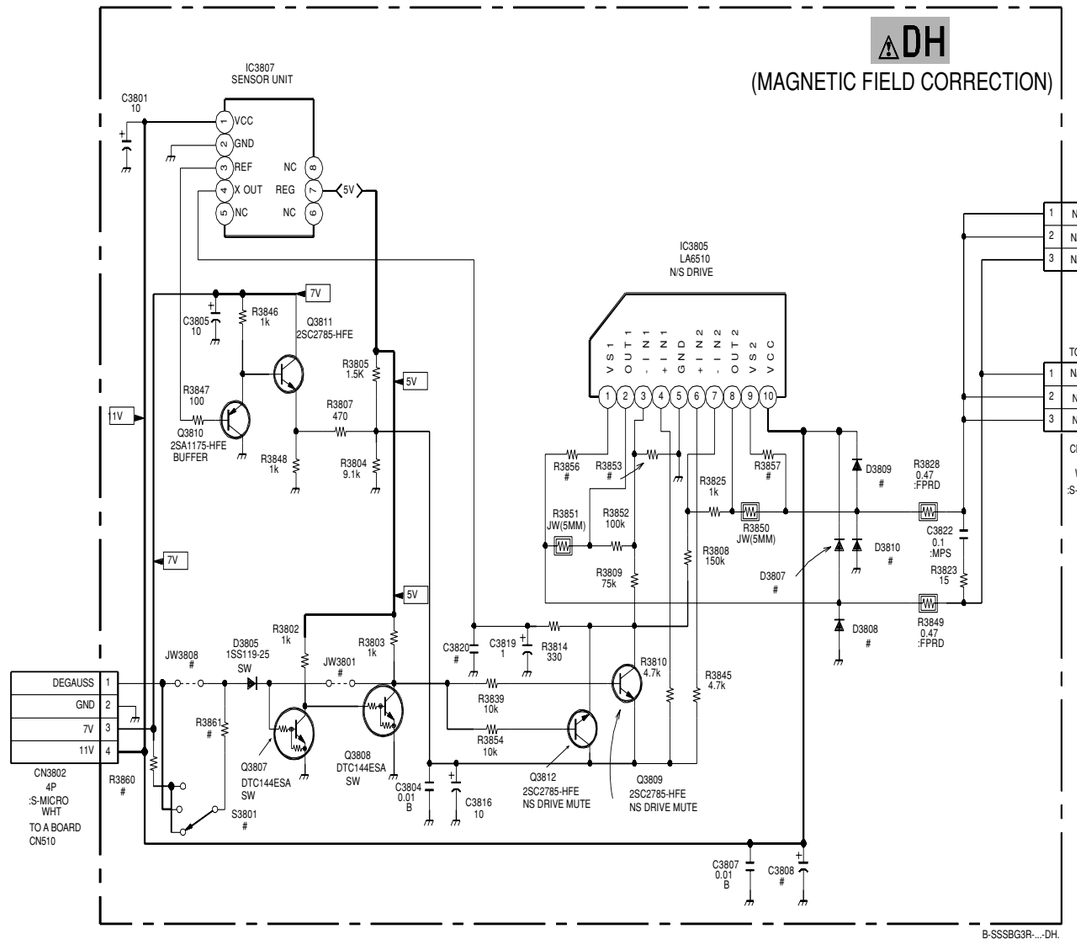
(8) Schematic Diagrams of D3 and DH Boards

(FOR KV-XA29M67/XA29M97 ONLY)



(FOR KV-XA34M67/XA34M97 ONLY)



A BOARD ✻ MARK LIST

	KV-XA29M97/XA29M67	KV-XA34M97/XA34M67
C018	#	47P :CHIP
C311	4.7	10
C316	220 16V	47 25V
C321	0.22 16V :CHIP	#
C504	#	680P :CHIP
C507	0.0047P 500V	220P 500V :CHIP
C510	330P :CHIP	0.001P :CHIP
C512	0.033P 25V	0.0047P :CHIP
C513	330P :CHIP	0.01 :CHIP
C518	100 10V	100 16V
C521	220 16V	220 25V
C523	680P 500V	1000P 500V :CHIP
C538	100 10V	100 16V
C539	0.56 630V :PP	0.051 400V :PP
C543	#	680 2KV :CHIP
C548	#	0.001 :CHIP
C554	0.0047 200V :PT	0.0056 100V :PT
C561	0.0022 630V :PP	0.0027 630V :PP
C567	0.68 250V :PP	0.75 250V :PP
C570	1.0 250V :PP	1.8 250V :PP
C572	0.15 250V :PP	0.22 250V :PP
C577	0.15 200V :PT	0.33 250V :PP
C582	0.1P 25V :CHIP	#
C584	100 :CHIP	#
C586	100P :CHIP	0 :CHIP
C634	100 16V	220 16V
C643	100 10V	100 16V
C653	47 25V	47
CN501	1P	#
CN502	1P	#
CN510	#	4P
CN604	2P	3P
D315	1SS355TE-17	#
D316	RD11SB2-T1	RD9.1S-B
D509	10K :CHIP	RD5.6SB-T1
D517	RS3FS	ERC06-15S
D519	RS3FS	ERC06-15S
D520	#	1SS355TE-17
D521	EL1Z	D2L20U
D523	EL1Z	D2L20U
D531	#	1SS355TE-17
D534	1SS355TE-17	0 :CHIP
D615	RU4AM-T	#
D616	30DF2N-FC5	#
D622	#	D3L60
D627	30DF2N-FCS	#
D630	#	FMX-12S
JR400	#	0 :CHIP
L512	#	1MH
L513	1.5MMH	1MMH
Q511	2SD2578-CA	2SC4927-01

	KV-XA29M97/XA29M67	KV-XA34M97/XA34M67
Q603	UN2111	DTA114EKA-T146
R336	#	1K :CHIP
R338	330 :CHIP	150K :CHIP
R345	22K :CHIP	10K :CHIP
R350	3.3K :CHIP	2.2K :CHIP
R351	1.5K :CHIP	1.0K :CHIP
R505	100K :CHIP	470K :CHIP
R506	22K :CHIP	18K :CHIP
R508	27 3W :RS47	3W :RS
R509	56 3W :RS82	3W :RS
R510	56 2W :RS39	1W :RS
R511	33 3W :RS6.8	3W :RS
R515	100 3W :RS	1.0 1W :RS
R519	220 3W :RS	12 3W :RS
R525	470K :CHIP	1M :CHIP
R526	8.2K :CHIP	7.5K :CHIP
R542	10K :CHIP	100K :CHIP
R544	1K 3W :RS	820 3W :RS
R549	20K RN	18K RN
R551	100K :CHIP	2.2K :CHIP
R557	#	0.22 2W :RS
R564	39K :CHIP	47K :CHIP
R565	10K :CHIP	3.3K :CHIP
R567	220K :CHIP	#
R571	8.2K RN	7.5K RN
R573	27K :CHIP	#
R581	2.2K :CHIP4.7K :CHIP	
R582	330K :CHIP	0 :CHIP
R583	#	1.5M :CHIP
R584	220K :CHIP	47K :CHIP
R585	2.2	1
R587	47K :CHIP	470K :CHIP
R588	220 2W :RS	100 3W :RS
R589	220 2W :RS	100 2W :RS
R592	39K :CHIP	100K :CHIP
R595	10K :CHIP	#
R596	680 3W :RS	820 3W :RS
R601	1.8K	1K
R615	1 2W RS	0.56 2W RS
R652	22K 2W :RS	22K 3W :RS
T503	NX4009//C6P4	NX4009//M3P
VDR600	#	ERZV14D621

Note) The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

B BOARD ✻ MARK LIST

	KV-XA29M97/XA29M67	KV-XA34M97/XA34M67
R1343	1.0K :CHIP	#
R2641	470 2W :RS	#
R6241	#	470 2W :RS

Note) The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

C6 BOARD ✻ MARK LIST

	KV-XA29M97/XA29M67	KV-XA34M97/XA34M67
C702	0.001 :CHIP	470P :CHIP
C703	#	0.022 250V :PP
R719	100K RN	27K RN
R723	100K RN	33K RN
R731	47	39
R732	47	39
R733	47	39

Note) The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

6-4. VOLTAGE MEASUREMENT

A(1/2) BOARD VOLTAGE LIST (For KV-XA29M97/XA29M67)

Ref	Pin No	Voltage[v]
IC001	1	0
	2	4.9
	3	0.7
	4	4.9
	5	4.9
	6	0
	7	3.9
	8	4.8
	9	0.5
	10	4.8
	11	4.9
	12	0
	13	2.2
	14	2.1
	15	4.9
	16	4.9
	17	0
	18	4.9(0)
	19	<(2.7)>[2.1]
	20	2.7
	21	4.9
	22	0
	23	4.9
	24	0.6
	25	4.9
	26	4.9
	27	4.8
	28	4.9
	29	0
	30	0
	31	0
	32	0
	33	4.9
	34	0
	35	0
	36	2.5
	37	2.5
	38	<(4.8)>[5.0]
	39	4.9
	40	<(0)>[0.1]
	41	0.4
	42	0.9
	43	<(0)>[0.1]
	44	4.9
	45	4.9
	46	4.4
	47	4.9
	48	4.4
	49	0
	50	2.7
	51	0.1
	52	[<4.7>](0.1)
IC002	1	0
	2	4.9
	3	4.9
	4	7.2
	5	4.9
	6	0
	7	0
IC003	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	4.9
IC100	1	4.9
	2	4.9
	3	0
IC301	1	3.3
	2	5.0
	3	(5.5)[6.3]<4.8>
	4	5.0
	5	4.9
	6	4.32
	7	1.8
	8	3.7
	9	4.7
	10	3.8
	11	5.0
	12	0
	13	3.7
	14	2.4
	15	3.6
	16	3.5
	17	5.4
	18	7.7
	19	0.8
	20	3.6
	21	3.1
	22	3.9
	23	[(2.9)]<3.6>
	24	1.5
	25	1.5
	26	1.5
	27	0
	28	4.5
	29	4.5
	30	4.5
	31	8.8
	32	4.1
	33	4.1
	34	3.6
	35	8.7
	36	4.4
	37	4.5
	38	4.6
	39	4.6
	40	5.1
	41	5.1
	42	0
	43	5.0
	44	4.9
	45	8.6
	46	5.0
	47	8.7
	48	<[2.1]>(0.2)
	49	<[5.3]>(4.3)
	50	0
	51	0
	52	2.9
IC302	1	<[0.9]>(1.6)
	2	0
	3	1.3
	4	0
	5	[<4.9>](1.7)
	6	4.9
	7	<(1.1)>[0]
	8	<(0)>[0.6]
	9	[<0.6>](0)
	10	[<4.8>](1.1)
	11	[<0.1>](4.9)
	12	[<1.4>](4.9)
	13	0
	14	<(1.7)>[0]
	15	0
	16	[<1.7>](0.9)
IC502	1	0.9
	2	3.6
	3	1.7
	4	0
	5	2.9
	6	2.4
	7	6.9
	8	8.8
IC503	1	1.6
	2	13.2
	3	13.4
	4	14.7
	5	0.3
	6	13.3
	7	1.6
IC601	1	1.9
	2	0.1
	3	288.5
	4	17.0
	5	0
IC602	1	122.4
	2	135.1
	3	0
IC603	I	<(7.5)>[12.36]
	3	3.8
	4	17.0
PH600	1	129.1
	2	128.1
	3	3.8
	4	17.0
Q002	B	0
	C	4.9
	E	0
Q101	B	2.8
	C	8.8
	E	2.2
Q301	B	12.4
	C	0
	E	12.2
Q302	B	1.7
	C	8.1
	E	1.1
Q303	B	8.1
	C	1.8
	E	8.7
Q304	B	3.6
	C	0
	E	4.3
Q305	B	[<0>](8.1)
	C	[<1.9>](1.5)
	E	8.7
Q306	B	1.7
	C	8.1
	E	1.1
Q307	B	4.3
	C	8.7
	E	3.7
Q308	B	3.5
	C	0.5
	E	0.8

A(2/2) BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
Q309	B	[<4.8>](0)	Q502	B	4.2	Q601	B	-0.8
	C	[<0>](4.9)		C	2.4		C	-0.5
	E	0		E	4.0		E	-0.7
Q310	B	<2.1>(0)[0.2]	Q503	B	0	Q602	B	0
	C	4.9		C	3.6		C	16.
	E	[<1.2>](0)		E	0		E	0
Q311	B	0	Q505	D	16.4	Q603	B	16.9
	C	8.9		G	6.9		C	0
	E	0		S	0		E	17.0
Q313	B	0	Q506	B	-0.6	Q604	B	133.9
	C	12.2		C	90.2		C	0
	E	0		E	0		E	133.9
Q314	B	0.5	Q507	B	12.7	Q605	D	391.8
	C	0		C	0(0.4)		G	112.7
	E	1.1		E	13.2		S	112.4
Q315	B	0	Q509	B	0.6	Q606	B	113.2
	C	1.6		C	0.1		C	113.2
	E	0		E	0		E	112.3
Q316	B	<[0]>(4.0)	Q511	B	-0.1	Q607	B	0.8
	C	0		C	123.1		C	0.1
	E	4.7		E	[<122.9>](0)		E	0
Q501	B	3.5	Q600	B	0	Q608	B	0
	C	0		C	12.4		C	0.8
	E	4.0		E	0		E	0

H BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]
IC3901	1	4.9
	2	4.9
	3	0
Q3901	B	0.1
	C	4.9
	E	0.1
Q3902	B	4.7
	C	2.2
	E	1.8

D3 BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]
IC2800	I	13.3
	G	0
	O	9.1
IC2801	1	4.5
	2	4.5
	3	4.5
	4	0
	5	0.5
	6	0.5
	7	7.9
	8	9.1
Q2800	B	0.3
	C	0.3
	E	0
Q2801	B	0.3
	C	1.9
	E	0
Q2802	B	13.3
	C	13.3
	E	13.3
Q2803	B	12.7
	C	13.3
	E	13.3
Q2804	B	2.1
	C	12.7
	E	1.5

B(1/2) BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]
IC1401	1	3.9
	2	3.9
	3	3.9
	4	3.9
	5	3.9
	6	8.1
	7	3.9
	8	3.9
	9	3.9
	10	3.9
	11	3.9
	12	8.1
	13	3.9
	14	3.9
	15	3.9
	16	3.9
	17	3.9
	18	8.1
	19	4.4
	20	4.4
	21	0
	22	3.9
	23	3.8
	24	3.9
	25	3.8
	26	3.9
	27	3.8
	28	3.9
	29	3.8
	30	3.8
	31	3.9
	32	3.9
	33	3.8
	34	0
	35	3.8
	36	0
	37	3.8
	38	3.9
	39	3.9
	40	3.8
	41	3.8
	42	4.0
	43	3.7
	44	8.8
	45	3.8
	46	3.8
	47	3.8
	48	3.8
IC1402	1	4.8
	2	2.4
	3	2.4
	4	0
	5	2.4
	6	2.4
	7	4.9
	8	9.0
IC1403	I	7.4
	G	0
	O	8.8
IC1404	I	12.1
	G	0
	O	8.8
IC3200	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.8
IC3201	1	0.1
	2	0.1
	3	8.8
	4	4.4
	5	4.4
	6	4.4
	7	4.4
	8	0
	9	4.4
	10	4.4
	11	4.4
	12	4.4
	13	4.4
	14	4.4
	15	4.4
	16	4.4
IC3202	1	4.4
	2	4.4
	3	4.3
	4	0
	5	4.3
	6	4.4
	7	4.4
	8	8.8
IC3203	1	4.4
	2	4.4
	3	4.4
	4	4.4
	5	8.7
	6	0.4
	7	0
	8	0.3
	9	0.3
	10	0.3
	11	0.3
	12	0.3
	13	8.7
	14	8.8
IC3204	1	4.4
	2	4.4
	3	4.2
	4	0
	5	4.3
	6	4.4
	7	4.4
	8	8.8
IC3205	1	0.1
	2	0.1
	3	8.7
	4	0.4
	5	0.4
	6	0.4
	7	0.4
	8	0
	9	2.2
	10	2.3
	11	0
	12	0
	13	8.8
	14	4.5
	15	4.4
	16	8.8
IC3206	1	0
	2	0
	3	[<0>](0.1)
	4	4.4
	5	[<0>](4.4)
	6	4.4
	7	4.4
	8	4.4
	9	4.4
	10	4.4
	11	4.4
	12	4.4
	13	[<0>](1.6)
	14	2.0
	15	8.8
	16	0.1
	17	4.4
	18	4.4
	19	2.0
	20	<(1.6)>[0.1]
	21	4.4
	22	4.4
	23	4.4
	24	[<0>](4.4)
	25	4.4
	26	4.4
	27	4.4
	28	4.4
	29	4.4
	30	4.4
	31	3.1
	32	4.4
IC6200	1	1.6
	2	0
	3	0
	4	0
	5	1.6
	6	9.8
	7	13.6
	8	5.0
	9	28.9
	10	0
	11	4.1
	12	13.2
Q1316	B	8.2
	C	4.9
	E	8.8
Q1317	B	4.9
	C	8.8
	E	4.3
Q1318	B	3.1
	C	6.9
	E	2.4
Q1323	B	[<4.9>](2.7)
	C	8.8
	E	[<4.3>](2.1)
Q1324	B	6.9
	C	8.8
	E	6.3
Q1365	B	3.1
	C	6.3
	E	2.4
Q1372	B	2.4
	C	8.8
	E	1.8

B(2/2) BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
Q1401	B	3.8	Q1410	B	3.8
	C	8.8		C	8.7
	E	3.1		E	3.2
Q1402	B	3.8	Q3201	D	4.2
	C	0		G	39
	E	4.4		S	4.2
Q1403	B	3.7	Q3203	B	4.0
	C	8.8		C	8.6
	E	3.1		E	3.5
Q1404	B	3.8	Q3204	D	4.2
	C	8.8		G	3.9
	E	3.1		S	4.3
Q1405	B	3.9	Q6201	B	0
	C	5.6		C	4.1
	E	3.2		E	0
Q1406	B	3.9	Q6203	B	0
	C	5.6		C	0
	E	3.2		E	0
Q1408	B	5.6	Q6204	B	0
	C	8.8		C	0
	E	5.0		E	0
Q1409	B	2.4	Q6208	B	0
	C	5.6		C	9.7
	E	1.8		E	0

VM1 BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]
Q5901	B	2.6
	C	8.8
	E	2.0
Q5902	B	0.5
	C	0.1
	E	0.5
Q5903	B	2.6
	C	4.6
	E	2.0
Q5904	B	4.6
	C	0
	E	5.0
Q5905	B	5.6
	C	8.8
	E	5.0
Q5906	B	0
	C	0.2
	E	0
Q5907	B	0.8
	C	0
	E	0
Q5908	B	4.3
	C	0
	E	0
Q5909	B	0
	C	8.8
	E	4.3

C6 BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
IC1800	1	4.8	Q705	B	8.9	Q712	B	1.4
	2	4.7		C	[(162)]<152>		C	8.3
	3	5.6		E	8.3		E	1.1
	4	5.6	Q706	B	8.9	Q714	B	0.7
	5	0		C	[(163)]<156>		C	0.2
	6	5.8		E	8.3		E	0.1
	7	5.8	Q707	B	[(161)]<153>	Q1800	B	3.9
	8	7.2		C	<(3.9)>[4.7]		C	0
	9	7.2		E	[(158)]<147>		E	4.6
	10	12.7	Q708	B	[(163)]<153>	Q1802	B	0.5
Q701	B	<(158)>[161]		C	4.2[(3.4)]<5.0>		C	2.0
	C	202.5		E	[(158)]<149>		E	0
	E	<(158)>[161]	Q709	B	[(166)]<156>	Q1803	B	0
Q702	B	[(162)]<153>		C	(3.4)[3.2]<4.6>		C	4.9
	C	202		E	[(162)]<152>		E	0
	E	[(159)]<153>	Q710	B	1.7	J701	KR	[(163)]<152.5>
Q703	B	[(166)]<156>		C	8.3		KG	[(158)]<149>
	C	202		E	1.2		KB	[(158)]<145>
	E	[(166)]<156>	Q711	B	1.5		HI	0
Q704	B	8.9		C	8.3		G2	[(306)]<299>
	C	[(160)]<151>		E	1.1			
	E	8.3						

A(1/2) BOARD VOLTAGE LIST (For KV-XA34M97/XA34M67)

Ref	Pin No	Voltage[v]
IC001	1	0
	2	4.8
	3	0.5
	4	4.9
	5	4.9
	6	4.9
	7	3.8
	8	4.8
	9	0.5
	10	4.8
	11	4.9
	12	0
	13	2.2
	14	2.1
	15	4.9
	16	4.9
	17	0
	18	<(4.9)>[0]
	19	<(1.9)>[2.6]
	20	2.5
	21	4.9
	22	0
	23	4.9
	24	4.9
	25	4.9
	26	4.9
	27	4.8
	28	4.9
	29	0
	30	0
	31	0
	32	0
	33	4.9
	34	0
	35	0
	36	2.4
	37	2.5
	38	4.9
	39	5.0
	40	0.1
	41	0.3
	42	0.3
	43	0.1
	44	5.0
	45	5.1
	46	4.5
	47	5.1
	48	4.6
	49	0.1
	50	2.2
	51	0.1
	52	<(4.8)>[0.1]
IC002	1	0
	2	4.9
	3	4.9
	4	7.3
	5	4.9
	6	0
	7	0
IC003	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	4.9

Ref	Pin No	Voltage[v]
IC100	1	<(4.9)>[0]
	2	4.9
	3	0
IC301	1	[(3.3)]<3.8>
	2	5.0
	3	1.5
	4	5.0
	5	4.8
	6	4.3
	7	[<1.8>](1.6)
	8	3.7
	9	4.6
	10	3.8
	11	5.0
	12	0
	13	3.9
	14	2.4
	15	3.5
	16	3.5
	17	5.4
	18	7.7
	19	0.8
	20	3.6
	21	3.4
	22	3.9
	23	3.4
	24	1.7
	25	1.7
	26	1.6
	27	0
	28	4.5
	29	4.5
	30	4.5
	31	8.8
	32	4.1
	33	4.1
	34	3.6
	35	8.7
	36	4.4
	37	4.4
	38	4.6
	39	4.7
	40	5.1
	41	5.1
	42	0
	43	5.0
	44	4.9
	45	[<6.9>](7.4)
	46	5.0
	47	8.7
	48	[<2.1>](0.2)
	49	[<5.3>](4.3)
	50	0
	51	0
	52	3.0
IC302	1	0.9
	2	0
	3	1.2
	4	0
	5	4.8
	6	4.8
	7	1.0
	8	0
	9	0.7
	10	[<4.8>](0)
	11	<(0)>[4.9]
	12	1.4

Ref	Pin No	Voltage[v]
	13	0
	14	1.6
	15	0
	16	1.7
IC502	1	1.3
	2	5.9
	3	1.2
	4	0
	5	2.5
	6	1.6
	7	6.5
	8	8.9
IC503	1	1.5
	2	13.1
	3	-13.4
	4	-14.8
	5	0.2
	6	13.3
	7	1.5
IC601	1	2.0
	2	0.1
	3	[<272>](295)
	4	16.8
	5	0
IC602	1	122.3
	2	135.2
	3	0
IC603	I	12.3
	G	0
	O	8.9
IC604	I	7.4
	G	0
	O	5.0
PH600	1	129.2
	2	128.2
	3	3.4
	4	16.8
Q003	B	0
	C	4.9
	E	0
Q101	B	[<2.8>](2.0)
	C	8.8
	E	[<2.2>](2.6)
Q301	B	12.2
	C	0
	E	12.0
Q302	B	1.7
	C	8.1
	E	1.1
Q303	B	8.1
	C	1.8
	E	8.7
Q304	B	3.6
	C	0
	E	4.3
Q305	B	8.1
	C	1.7
	E	8.7
Q306	B	1.6
	C	8.1
	E	1.0
Q307	B	4.3
	C	8.7
	E	3.7

A(2/2) BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
Q308	B	3.6	Q502	B	4.3	Q602	B	0.2
	C	0.5		C	1.6		C	16.8
	E	0.8		E	4.0		E	0
Q309	B	<(4.8)>[0]	Q503	B	0.1	Q603	B	16.8
	C	<(0)>[4.9]		C	3.6		C	3.4
	E	0		E	0		E	16.8
Q310	B	[<2.0>](0.2)	Q505	D	15.6	Q604	B	134.0
	C	4.9		G	6.5		C	0.1
	E	[<0>](1.2)		S	0		E	134.5
Q311	B	0	Q506	B	-0.8	Q605	D	<(397)>[389]
	C	8.9		C	91.3		G	113
	E	0		E	0		S	111.1
Q313	B	0	Q507	B	12.6	Q606	B	112.3
	C	<(11.9)>[12.1]		C	0.5		C	112.8
	E	0		E	13.1		E	[(112)]<10.8>
Q314	B	0.5	Q509	B	0.6	Q607	B	0.7
	C	0		C	0.1		C	0
	E	1.0		E	0		E	0
Q315	B	0	Q511	B	-0.2	Q608	B	0
	C	[(2.0)]<2.3>		C	[<100>](123)		C	0.7
	E	0		E	0.1		E	0
Q316	B	4.1	Q600	B	0			
	C	0		C	12.3			
	E	[<4.7>](5.0)		E	0			
Q501	B	3.5	Q601	B	0.7			
	C	0		C	0.4			
	E	4.0		E	0.7			

D2 BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
IC2801	1	5.7	Q2805	B	1.6
	2	6.3		C	0
	3	6.3		E	1.6
	4	0	Q2807	B	1.4
	5	6.4		C	0
	6	6.3		E	0
	7	0	Q2811	B	5.7
	8	14.8		C	0
IC2805	1	0		E	5.5
	2	0	Q2813	B	2.3
	3	0		C	12.0
	4	0		E	1.8
	5	4.4	Q2822	B	11.5
	6	4.4		C	12.1
	7	4.4		E	3.3
	8	4.4	Q2823	B	3.3
Q2802	B	1.6		C	12.1
	C	0		E	2.7
	E	2.3			
Q2806	B	1.6			
	C	8.1			
	E	1.6			

VM1 BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]
Q5901	B	2.7
	C	8.8
	E	2.0
Q5902	B	-0.7
	C	-0.4
	E	-0.8
Q5903	B	2.7
	C	4.6
	E	2.0
Q5904	B	4.6
	C	0
	E	5.1
Q5905	B	5.6
	C	8.8
	E	5.1
Q5906	B	0
	C	0.5
	E	0
Q5907	B	0
	C	0.7
	E	0
Q5908	B	3.8
	C	0
	E	0
Q5909	B	0
	C	8.8
	E	3.8

B(1/2) BOARD VOLTAGE LIST (For KV-XA34M97/XA34M67)

Ref	Pin No	Voltage[v]
IC1401	1	3.9
	2	3.9
	3	3.9
	4	3.9
	5	3.9
	6	[<3.1>](8.1)
	7	3.9
	8	3.9
	9	3.9
	10	3.9
	11	3.9
	12	8.1
	13	3.9
	14	3.9
	15	3.9
	16	0(3.9)
	17	3.9
	18	[<3.1>](8.1)
	19	4.4
	20	4.5
	21	0
	22	3.9
	23	3.9
	24	3.9
	25	3.9
	26	3.9
	27	3.9
	28	3.9
	29	3.8
	30	3.8
	31	3.9
	32	3.9
	33	3.9
	34	0
	35	3.9
	36	0
	37	3.8
	38	3.9
	39	3.9
	40	3.8
	41	3.8
	42	3.9
	43	3.8
	44	[<3.8>](8.8)
	45	3.8
	46	3.9
	47	3.8
	48	3.9
IC1402	1	4.9
	2	2.4
	3	2.4
	4	0
	5	2.4
	6	2.4
	7	[<0>](4.9)
	8	8.8
IC1403	I	7.3
	G	0
	O	5.0
IC1404	I	11.9
	G	0
	O	8.8
IC3200	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.7
IC3201	1	0.1
	2	8.2
	3	8.7
	4	4.4
	5	4.4
	6	4.4
	7	4.4
	8	0
	9	4.4
	10	4.4
	11	4.4
	12	4.4
	13	4.4
	14	4.4
	15	4.4
	16	4.4
IC3202	1	4.4
	2	4.4
	3	4.3
	4	0
	5	4.3
	6	4.4
	7	4.4
	8	8.7
IC3203	1	4.4
	2	4.4
	3	4.4
	4	4.4
	5	0.4
	6	0.2
	7	0
	8	0.2
	9	0.2
	10	0.2
	11	0.2
	12	0.2
	13	0.4
	14	8.7
IC3204	1	4.3
	2	4.3
	3	4.3
	4	0
	5	4.3
	6	4.3
	7	4.3
	8	8.7
IC3205	1	8.2
	2	0.1
	3	0.4
	4	0.4
	5	0.4
	6	0.4
	7	0.4
	8	0
	9	2.2
	10	2.2
	11	0
	12	0
	13	8.7
	14	2.2
	15	4.4
	16	[<0>](8.7)
IC3206	1	0
	2	0
	3	0
	4	4.4
	5	4.3
	6	4.4
	7	4.4
	8	4.4
	9	4.4
	10	4.4
	11	4.3
	12	4.4
	13	1.7
	14	1.4
	15	8.7
	16	0
	17	4.4
	18	4.5
	19	1.9
	20	1.7
	21	4.4
	22	4.3
	23	[<0>](4.3)
	24	[<0>](4.3)
	25	[<0>](4.3)
	26	4.4
	27	4.3
	28	[<0>](4.3)
	29	4.3
	30	4.4
	31	4.0
	32	4.3
IC6200	1	1.6
	2	0
	3	0
	4	0
	5	1.6
	6	9.3
	7	12.6
	8	5.2
	9	27.6
	10	0
	11	4.3
	12	12.2
Q1316	B	8.2
	C	4.4
	E	8.8
Q1317	B	4.4
	C	8.8
	E	3.7
Q1318	B	3.1
	C	6.9
	E	2.4
Q1323	B	2.7
	C	8.2
	E	2.0
Q1324	B	6.9
	C	[<0>](8.8)
	E	6.2
Q1365	B	3.1
	C	6.4
	E	2.5
Q1372	B	2.4
	C	8.8
	E	1.8

B(2/2) BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
Q1401	B	3.8	Q1410	B	3.8
	C	8.8		C	8.7
	E	3.2		E	[<3.2>](3.8)
Q1402	B	3.8	Q3201	D	4.2
	C	0		G	3.9
	E	4.5		S	4.2
Q1403	B	3.7	Q3203	B	3.9
	C	8.8		C	8.5
	E	3.1		E	3.4
Q1404	B	3.9	Q3204	D	4.2
	C	8.8		G	3.9
	E	3.2		S	4.3
Q1405	B	3.9	Q6201	B	0
	C	5.5		C	4.3
	E	3.3		E	0
Q1406	B	3.9	Q6203	B	0
	C	5.6		C	0
	E	3.3		E	0
Q1408	B	5.8	Q6204	B	0
	C	8.8		C	0
	E	5.1		E	0
Q1409	B	2.4	Q6208	B	0
	C	5.8		C	9.2
	E	1.8		E	0

H BOARD VOLTAGE LIST

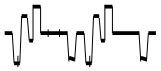
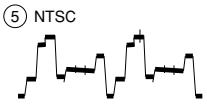
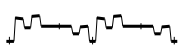
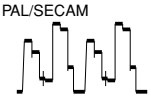
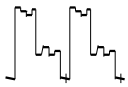
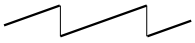
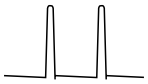
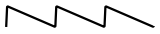
Ref	Pin No	Voltage[v]
IC3901	1	4.8
	2	4.8
	3	0
Q3901	B	0.2
	C	5.0
	E	0.2
Q3902	B	4.7
	C	2.1
	E	1.8

C6 BOARD VOLTAGE LIST

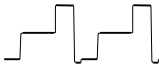
Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
IC1800	1	6.5	Q703	B	[<151>](145)	Q710	B	1.6
	2	6.5		C	204		C	8.3
	3	6.5		E	[(153)]<147>		E	1.4
	4	6.4	Q704	B	8.9	Q711	B	1.8
	5	0		C	[<154>](151)		C	8.2
	6	6.4		E	8.3		E	1.4
	7	6.4	Q705	B	8.9	Q712	B	1.6
	8	6.4		C	[<153>](149)		C	8.3
	9	6.4		E	8.3		E	1.3
	10	12.6	Q706	B	8.9	Q714	B	0.7
J701	KR	[(153)]<147>		C	[(153)]<144>		C	0.2
	KG	[(149)]<143>		E	8.3		E	0
	KB	[(151)]<148>	Q707	B	[(115)]<149>	Q1800	B	3.8
	HI	0.35		C	5.4		C	0
	G2	284.8		E	[(156)]<146>		E	4.5
Q701	B	151	Q708	B	(<151>)[147]	Q1802	B	0.4
	C	204		C	6.0		C	3.4
	E	157		E	[<150>](148)		E	0
Q702	B	147	Q709	B	[(154)]<146>	Q1803	B	0
	C	206		C	5.4		C	6.5
	E	[<151>](149)		E	[(150)]<144>		E	0

6-5. WAVEFORMS (For KV-XA29M67/XA29M97)

A BOARD WAVEFORMS

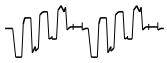
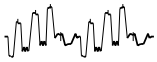
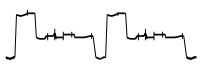
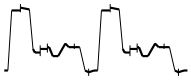
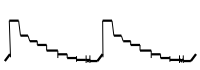
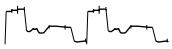
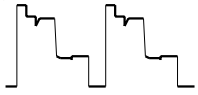
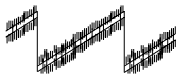
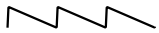
① 4.8Vp-p (V)	② 5.1Vp-p (V)	③ 4.0Vp-p (V)	④ PAL/SECAM 1.2Vp-p (H)	④ NTSC  1.5Vp-p (H)
⑤ PAL/SECAM 1.0Vp-p (V)	⑤ NTSC  1.1Vp-p (V)	⑥ 0.2Vp-p (H)	⑦ PAL/SECAM 1.2Vp-p (H)	⑦ NTSC  1.4Vp-p (H)
⑧ PAL/SECAM 1.2Vp-p (H)	⑧ NTSC 1.2Vp-p (H)	⑨ PAL/SECAM 1.5Vp-p (H)	⑨ NTSC 1.5Vp-p (H)	⑩ PAL/SECAM  3.2Vp-p (H)
⑩ NTSC 3.4Vp-p (H)	⑪  3.4Vp-p (H)	⑫ PAL/SECAM 3.2Vp-p (H)	⑫ NTSC 3.58 3.2Vp-p (H)	⑫ NTSC 4.43 3.4Vp-p (H)
⑬ PAL/SECAM/NTSC 3.58  1.3Vp-p (H)	⑭ 106Vp-p	⑮  240Vp-p	⑯  1.1Vp-p (V)	

C6 BOARD WAVEFORMS

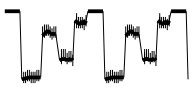
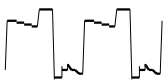
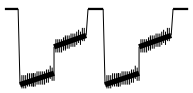
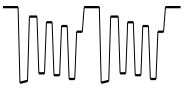
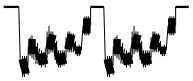
① 113Vp-p (H)	② PAL/SECAM 120Vp-p (H)	② NTSC 113Vp-p (H)
③ PAL/SECAM  PAL : 116Vp-p (H) SECAM : 126Vp-p (H)	③ NTSC 117Vp-p (H)	④ 22Vp-p (H)

(For KV-XA34M67/XA34M97)

A BOARD WAVEFORMS

① 4.5Vp-p (V)	② 5.2Vp-p (V)	③ PAL : 3.5Vp-p (V) SECAM\NTSC : 3.1Vp-p (V)	④ PAL/SECAM  PAL : 1.0Vp-p (H) SECAM : 0.9Vp-p (H)	④ NTSC  0.9Vp-p (H)
⑤ PAL/SECAM  0.8Vp-p (H)	⑤ NTSC  0.7Vp-p (H)	⑥ PAL/SECAM PAL : 0.8Vp-p (H) SECAM : 0.7Vp-p (H)	⑥ NTSC  0.7Vp-p (H)	⑦ PAL/SECAM PAL : 0.9Vp-p (H) SECAM : 0.8Vp-p (H)
⑦ NTSC 0.8Vp-p (H)	⑧ PAL/SECAM 0.7Vp-p (H)	⑧ NTSC  0.7Vp-p (H)	⑨ PAL/SECAM 0.7Vp-p (H)	⑨ NTSC 0.7Vp-p (H)
⑩ PAL/SECAM 3.4Vp-p (H)	⑩ NTSC 3.5Vp-p (H)	⑪ PAL 3.4Vp-p (H)	⑪ SECAM 3.5Vp-p (H)	⑪ NTSC  3.5Vp-p (H)
⑫ PAL 3.5Vp-p (H)	⑫ SECAM 3.5Vp-p (H)	⑫ NTSC 3.5Vp-p (H)	⑬  1.2Vp-p (H)	⑭ 159Vp-p
⑮ 1,200Vp-p	⑯  1.8Vp-p			

C6 BOARD WAVEFORMS

① PAL 122Vp-p (H)	① SECAM 129Vp-p (H)	① NTSC  127Vp-p (H)
② PAL 127Vp-p (H)	② SECAM  128Vp-p (H)	② NTSC  125Vp-p (H)
③ PAL  135Vp-p (H)	③ SECAM 133Vp-p (H)	③ NTSC  133Vp-p (H)
④ 22.4Vp-p (H)		

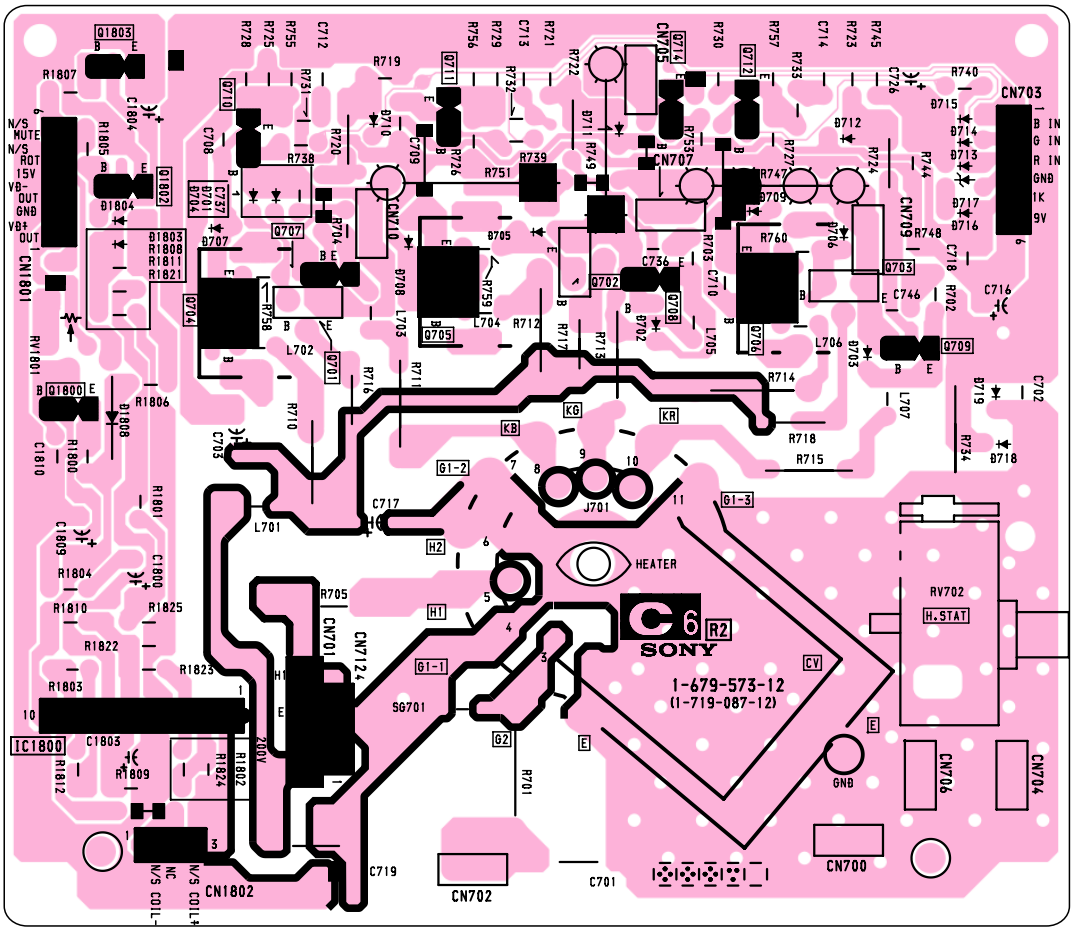
6-6. PRINTED WIRING BOARDS AND PARTS LOCATION

PRINTED WIRING BOARDS

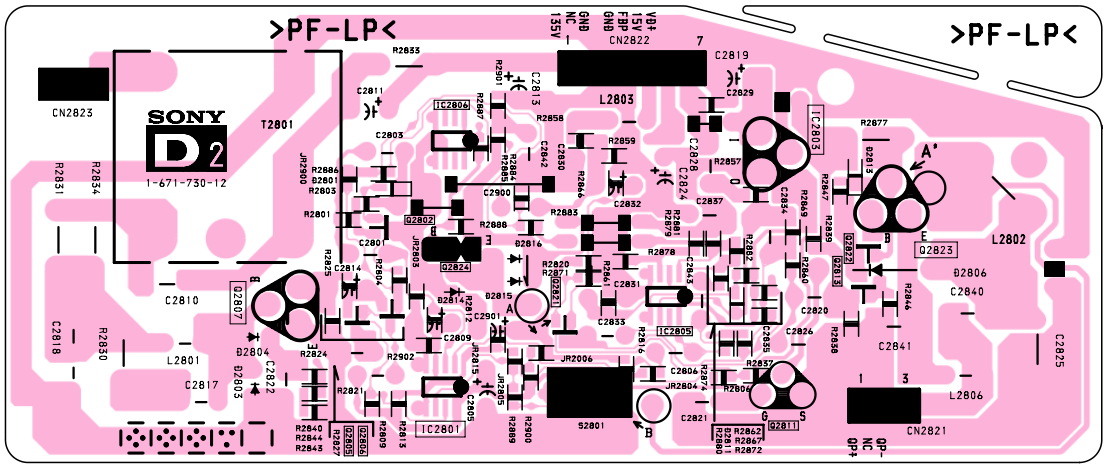
C6 [VIDEO AMP, ROTATION CIRCUIT]

D2 [DF, DQP DRIVE]

– C6 Board –



– D2 Board – (KV-XA34M97/XA34M67)



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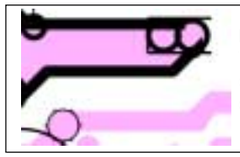
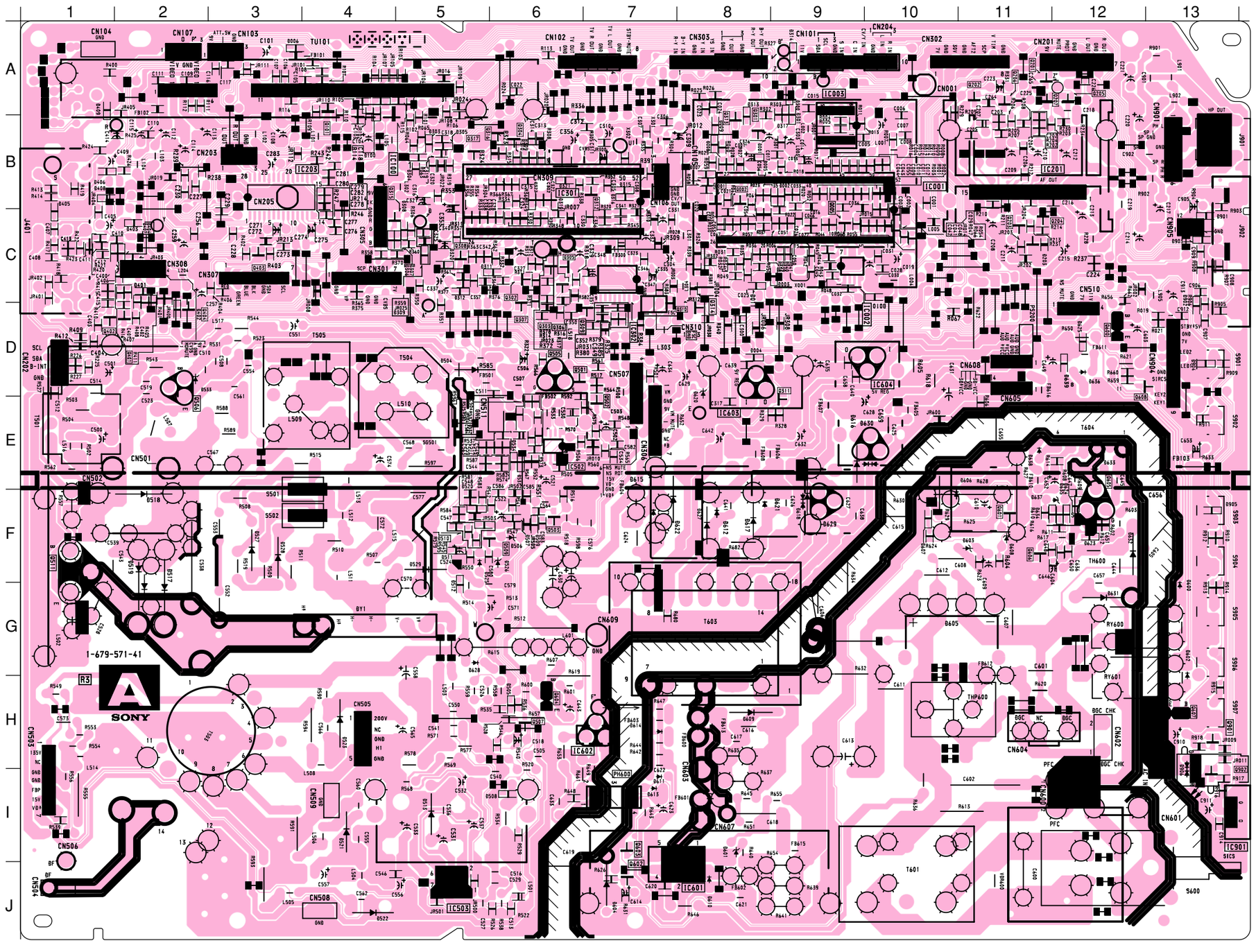
PRINTED WIRING BOARDS

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

– A Board –



A BOARD

IC		Q605	E-12	D523	H-4
IC001	B-10	Q606	F-11	D525	F-5
IC002	D-10	Q607	H-13	D526	F-6
IC003	A-9	Q608	D-12	D527	F-3
IC100	B-4	Q901	H-13	D528	F-3
IC201	B-12	Q902	H-13	D529	F-5
IC203	B-4	**DIODE**		D531	E-6
IC301	B-6	D001	B-8	D533	D-2
IC302	D-7	D002	B-9	D534	E-6
IC502	E-6	D003	C-9	D600	G-13
IC503	J-5	D004	D-8	D601	I-8
IC601	J-8	D005	B-8	D602	G-13
IC602	H-6	D006	A-3	D603	F-11
IC603	E-8	D007	B-8	D604	J-7
IC604	D-10	D008	B-8	D605	G-10
IC901	I-13	D009	B-8	D606	E-11
PH600	1-7	D010	D-10	D607	F-10
TRANSISTOR		D011	C-8	D608	F-11
Q001	B-8	D100	B-4	D609	H-8
Q002	B-8	D203	C-11	D610	J-8
Q005	B-9	D300	A-9	D611	I-7
Q101	B-4	D301	B-9	D612	F-8
Q201	A-11	D303	B-5	D613	I-7
Q202	A-11	D304	B-5	D615	E-7
Q203	C-11	D305	B-5	D616	E-9
Q204	C-12	D306	C-5	D617	F-8
Q205	A-12	D307	C-5	D618	F-9
Q206	A-11	D308	B-5	D620	D-8
Q207	A-12	D309	D-5	D621	F-9
Q301	A-8	D311	C-5	D622	F-8
Q302	C-6	D312	C-5	D623	F-12
Q303	D-6	D313	A-8	D624	E-12
Q304	B-6	D314	A-9	D625	D-12
Q305	C-6	D315	B-7	D627	F-8
Q306	D-6	D316	B-7	D628	G-5
Q307	D-6	D317	B-9	D629	F-9
Q308	C-5	D319	B-6	D630	E-10
Q309	D-6	D320	C-5	D631	G-12
Q310	D-8	D321	B-6	D632	F-12
Q311	D-9	D322	B-6	D633	E-12
Q312	B-7	D401	C-2	D634	F-11
Q313	B-8	D402	D-2	D635	E-12
Q314	D-8	D403	C-2	D636	D-12
Q315	B-4	D404	C-2	D637	F-11
Q316	B-5	D405	B-1	D638	E-11
Q317	B-5	D406	B-1	D901	C-13
Q401	D-2	D407	C-2	D902	C-13
Q402	D-1	D408	B-1	D903	C-13
Q403	C-3	D409	A-1	D904	C-13
Q404	D-2	D504	D-5	D905	F-13
Q501	D-6	D505	H-6	D906	H-13
Q502	E-7	D506	F-6		
Q503	F-6	D507	F-6		
Q505	D-6	D508	I-5		
Q506	E-2	D509	F-6		
Q507	H-6	D510	F-5		
Q509	F-6	D511	F-5		
Q511	F-1	D512	G-5		
Q600	D-12	D513	I-5		
Q601	F-11	D517	F-2		
Q602	I-7	D518	F-2		
Q603	I-7	D519	F-2		
Q604	H-6	D520	E-5		
		D521	I-4		
		D522	J-4		

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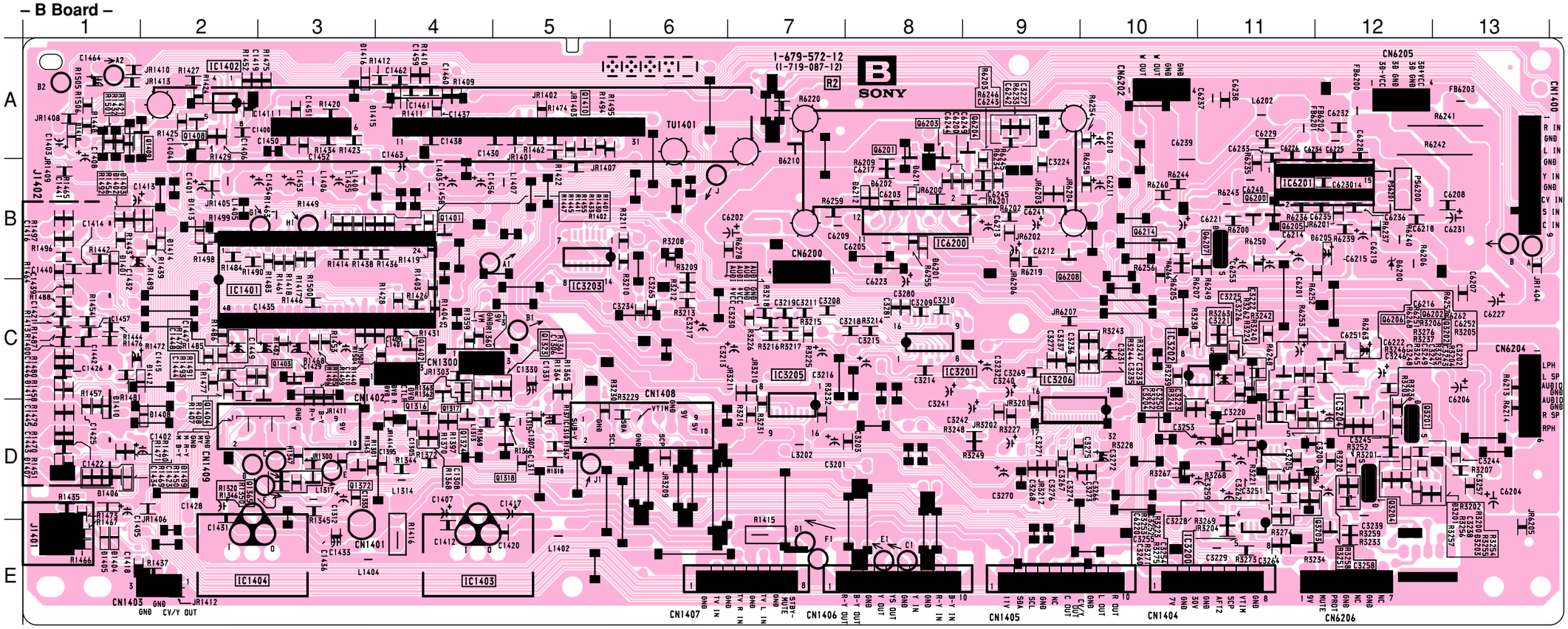
PRINTED WIRING BOARDS

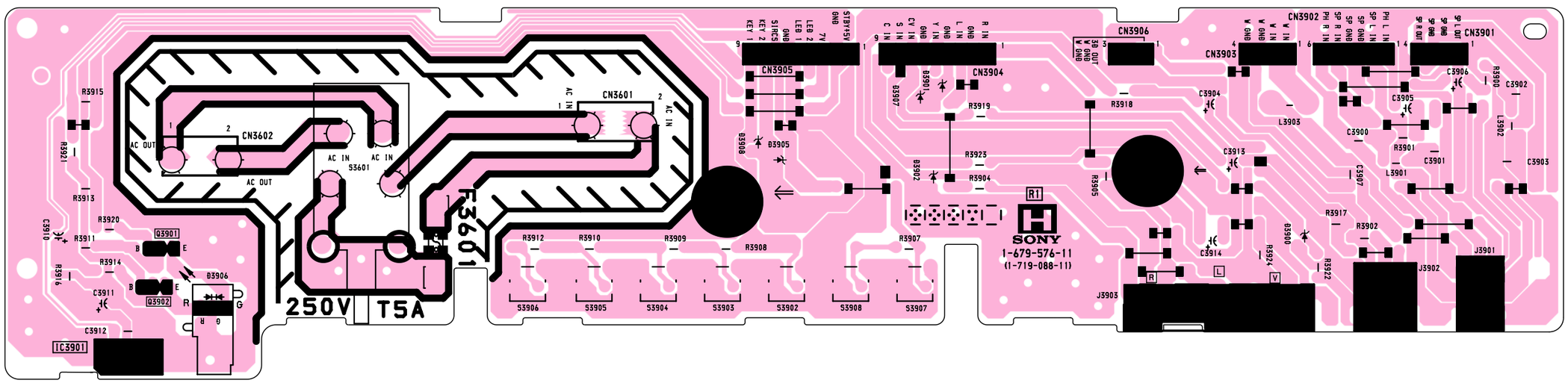
B [AUDIO PROCESSOR, AUDIO AMP, SUB TUNER, AV IN/OUT, VM DRIVER]

H [FRONT AV IN, SENSOR, POWER SW]

– B Board –



– H Board –



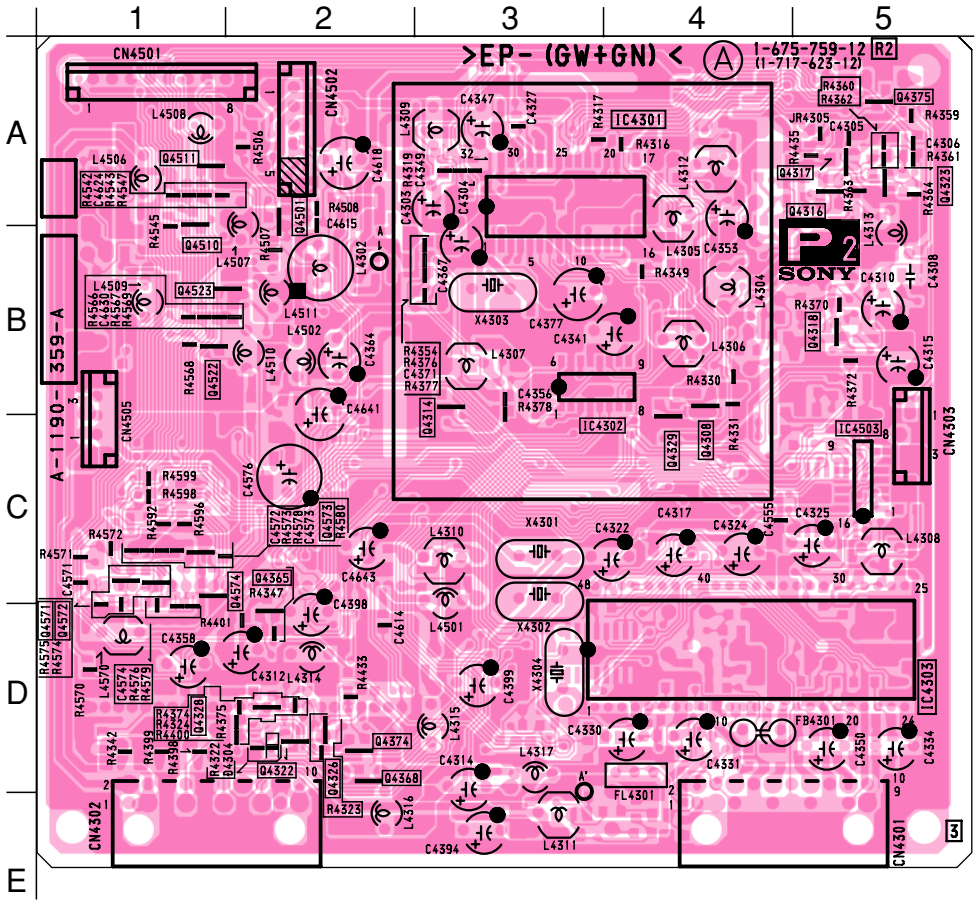
B BOARD

IC			
IC1401	C-2	Q6202	C-12
IC1402	A-2	Q6203	A-8
IC1403	E-4	Q6204	A-9
IC1404	E-2	Q6205	B-11
IC3200	E-10	Q6206	C-12
IC3201	C-8	Q6207	B-11
IC3202	C-10	Q6208	B-9
IC3203	C-5	Q6214	B-10
IC3204	D-11	**DIODE**	
IC3205	C-7	D001	B-8
IC3206	C-9	D1401	B-1
IC6200	B-8	D1402	B-1
IC6201	B-11	D1403	B-1
TRANSISTOR		D1404	E-1
Q1316	D-4	D1405	E-1
Q1317	D-4	D1406	D-1
Q1318	D-5	D1408	D-2
Q1323	C-5	D1409	D-2
Q1324	D-4	D1410	D-1
Q1365	D-2	D1412	C-2
Q1372	D-3	D1413	B-2
Q1401	B-4	D1414	B-2
Q1402	C-4	D1415	A-3
Q1403	C-3	D1416	A-3
Q1404	D-2	D1418	A-1
Q1408	A-2	D3201	D-13
Q1409	A-2	D3203	E-13
Q1410	A-5	D6200	B-12
Q3201	D-12	D6201	B-8
Q3202	C-13	D6202	B-8
Q3203	E-12	D6205	B-12
Q3204	D-12	D6210	A-7
Q6200	B-11	D6211	B-8
Q6201	A-8	D6212	B-8

PRINTED WIRING BOARDS

P2 [PICTURE IN PICTURE & DVD SWITCH]

– P2 Board –



P2 COMPONENT SIDE

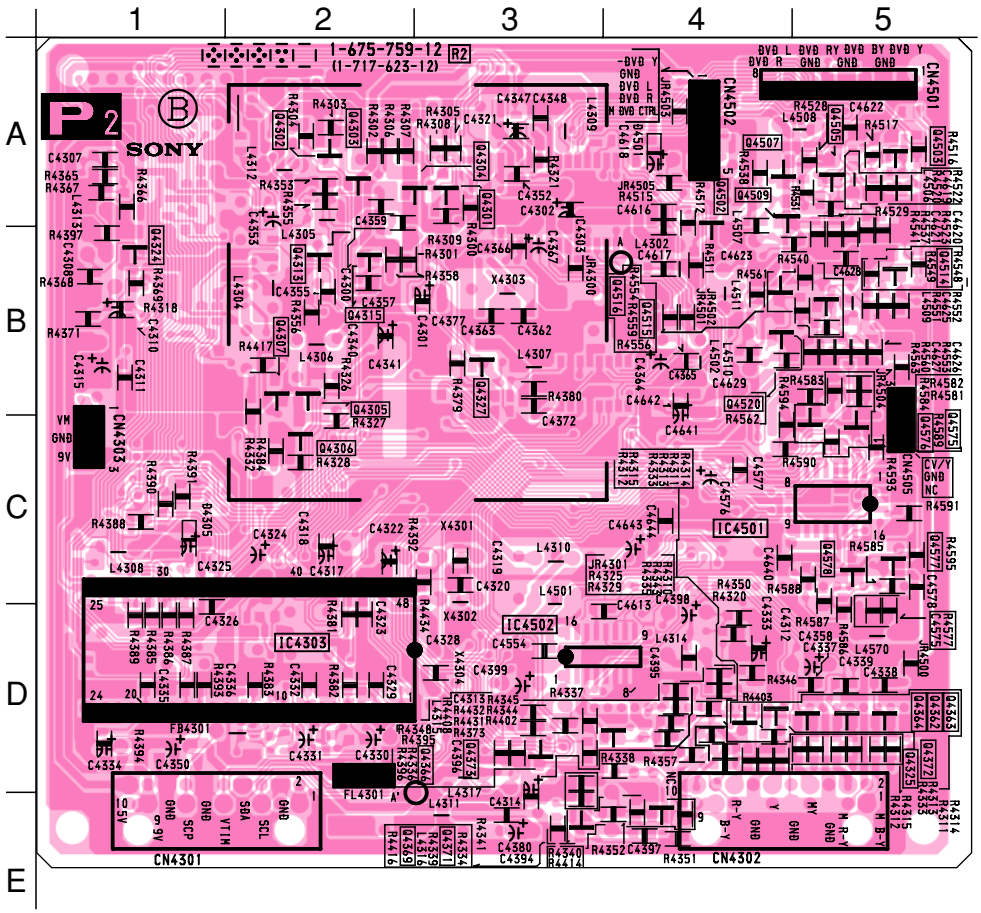
IC		Q4522	B-1
		Q4523	B-1
IC4301	A-4	Q4571	D-1
IC4302	C-3	Q4572	D-1
IC4303	D-5	Q4573	C-2
IC4503	C-5	Q4574	C-2
TRANSISTOR		DIODE	
Q4308	C-4	D4304	D-1
Q4314	C-3		
Q4316	A-5		
Q4317	A-5		
Q4318	B-5		
Q4322	D-2		
Q4323	A-5		
Q4326	D-2		
Q4328	D-1		
Q4329	C-4		
Q4365	C-2		
Q4368	D-2		
Q4374	D-2		
Q4375	A-5		
Q4501	A-2		
Q4510	B-1		
Q4511	A-1		

- : Pattern from the side which enables seeing.
- : Pattern from the rear side.

PRINTED WIRING BOARDS

P2 [PICTURE IN PICTURE & DVD SWITCH]

– P2 Board –



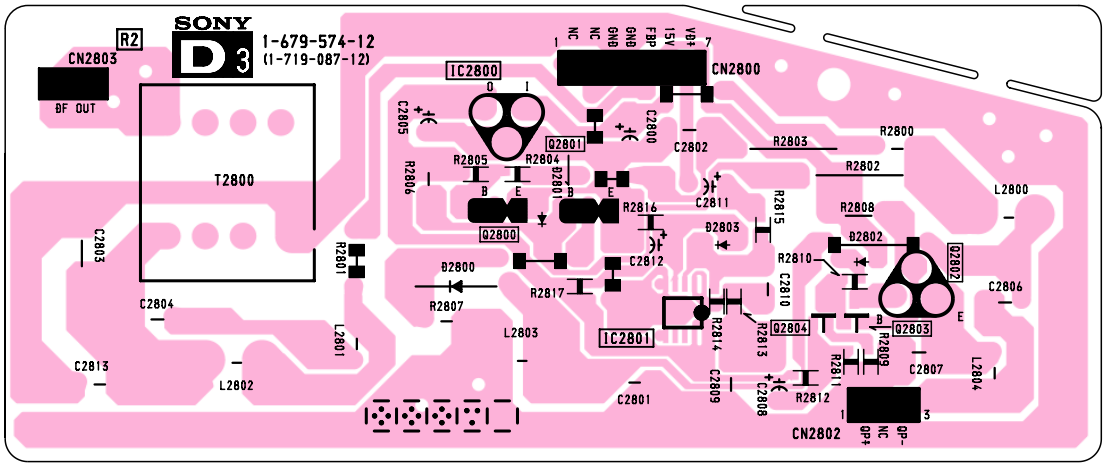
P2 B CONDUCTOR SIDE

IC		Q4372	D-5
		Q4373	D-3
IC4303	D-2	Q4502	A-4
IC4501	C-1	Q4503	A-5
IC4502	D-3	Q4505	A-5
		Q4507	A-4
TRANSISTOR		Q4509	A-4
		Q4514	B-5
Q4301	A-3	Q4515	B-4
Q4302	A-2	Q4516	B-4
Q4303	A-2	Q4520	B-4
Q4304	A-3	Q4575	C-5
Q4305	B-2	Q4576	C-5
Q4306	C-2	Q4577	C-5
Q4307	B-2	Q4578	C-5
Q4313	B-2		
Q4315	B-2	DIODE	
Q4324	B-1		
Q4325	D-5	D4305	C-1
Q4327	B-3	D4501	A-4
Q4362	D-5		
Q4363	D-5		
Q4364	D-5		
Q4366	D-3		
Q4369	E-2		
Q4371	E-2		

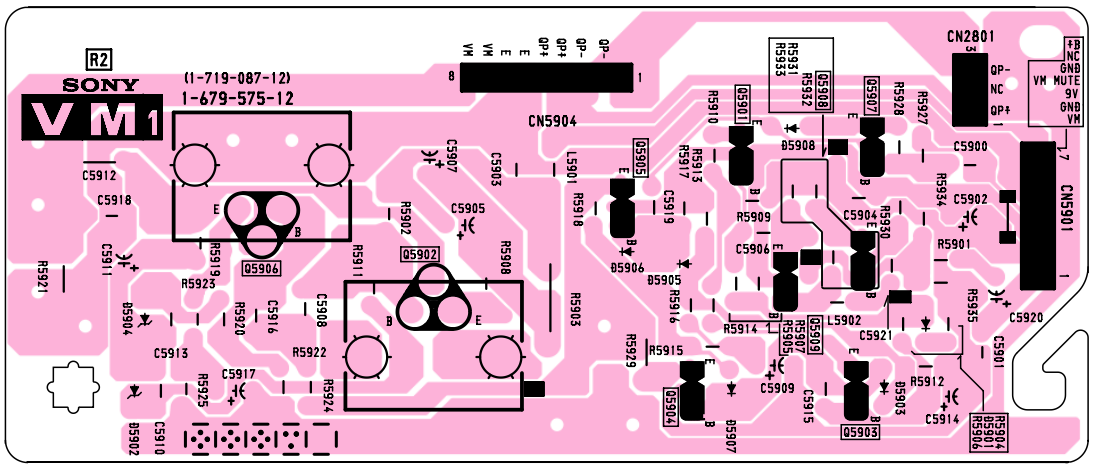
PRINTED WIRING BOARDS

D3 [DQP, DYNAMIC FOCUS] **VM1** [DQP, DYNAMIC FOCUS] **F** [CISPR]

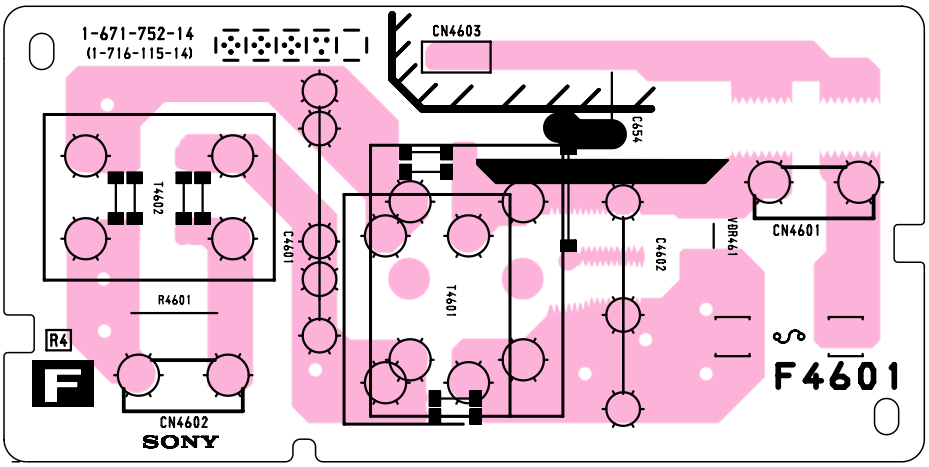
– D3 Board – (KV-XA29M97/XA29M67)



– VM1 Board –



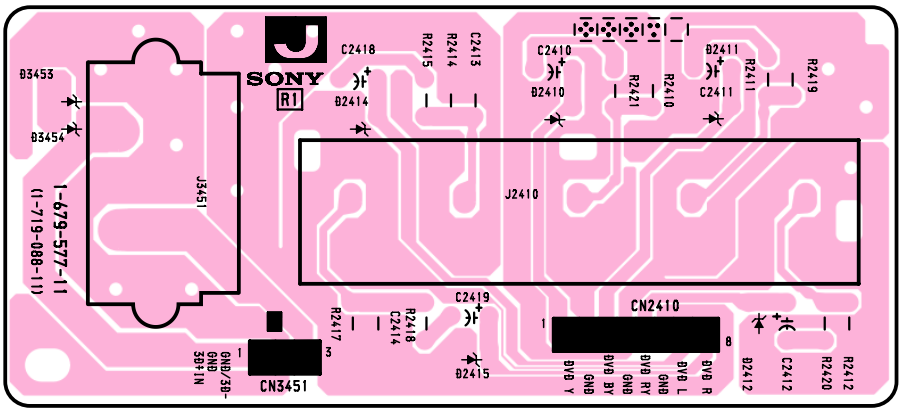
– F Board –



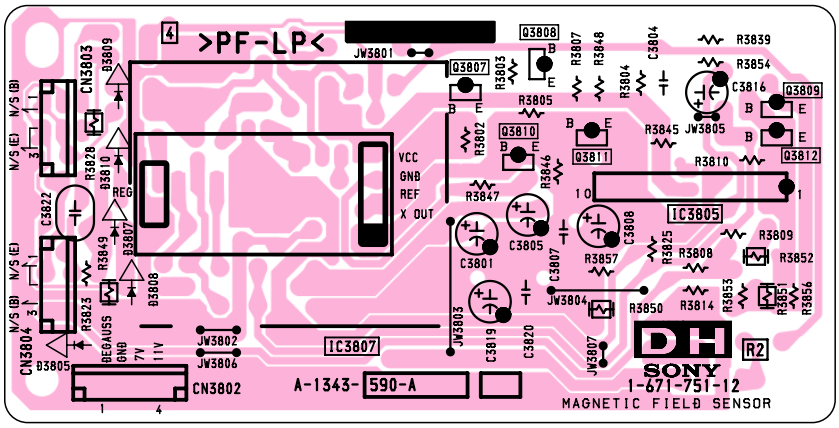
PRINTED WIRING BOARDS

J [DVD, 3D TERMINAL] **DH** [MAGNETIC FIELD CORRECTION]

– J Board –

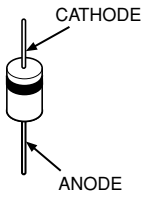
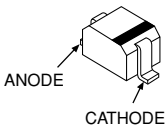
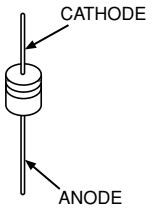
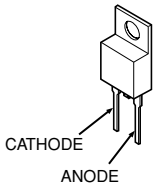


– DH Board – (KV-XA34M97/XA34M67)

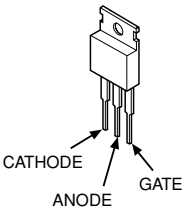
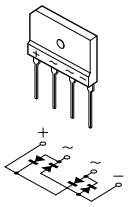
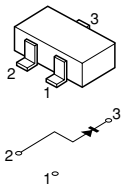
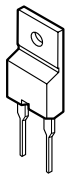
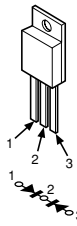
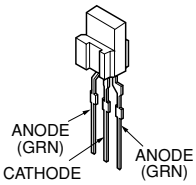


6-7. SEMICONDUCTORS

DIODE

					
AK04V0 AU-01Z-V1 D2L20U D1NL20U-TR EL1Z ERA22-08 ERC06-15S ERC04-06SE	GP08D NNCD9.1A-T1 RD33EB3T RGP02-17EL-6433 RU4AM-T4 RS3FS RU4AM-T3	DTZ10B DTZ-TT11-15B MA111-(TX) RD5.1SB-T2 RD5.6S-B RD9.1S-B 1SS355TE-17	D1N20R D1NS4 RD6.8ES-B1 RD11SB2-T1 RD20ES-B2 RD30ES-B2	RD39ES-B2 RD5.1ES-B3 1SS119-25 11EQS04	D5S6M

LED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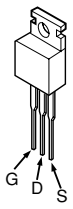
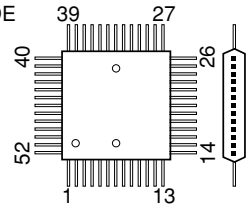
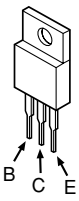
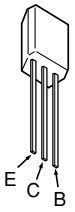
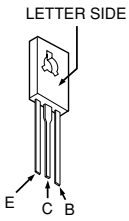
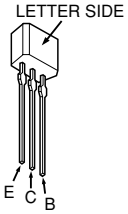
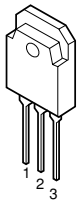
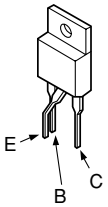
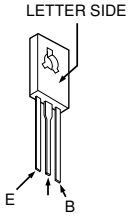
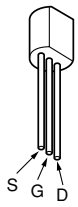
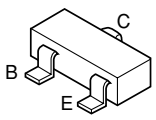
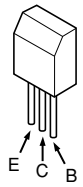
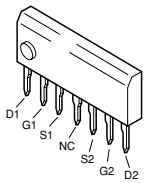
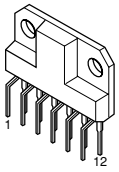
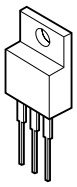
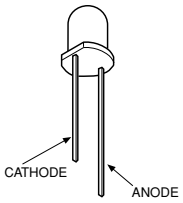
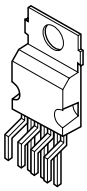
TRANSISTOR

	MARKING SIDE VIEW 				
IRF614	RU-1P	2SA1606-E 2SC4159-E 2SC4793	2SA1091-0 2SC3576 2SC2458-YGR 2SC2551-0	2SC2611 2SC3840(3)	

					
DTC144ESA 2SA1175-HFE 2SC2785-HFE	2SD2578-CA	2SK2845-LB102	2SC2688-LK	2SK246-GR	UN2111 UN2212 UN2213 DTA114EKA-T146 DTC114EKA-T146 2SA1162-G 2SD2114K 2SC2712-YG

TRANSISTOR IC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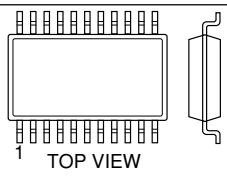
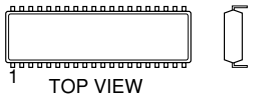
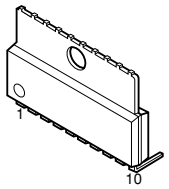
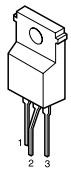
SOP  Single In -line Package Pin 8~98		DIP  Dual In-line Package Pin 6~98		
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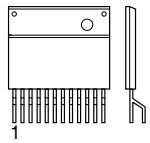
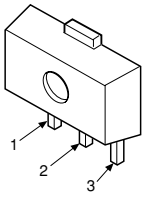
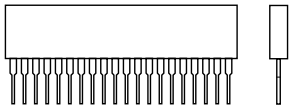
MARKING SIDE VIEW  Zig-zag In -line Package Pin 6~99			MARKING SIDE VIEW  Single In-line Package Pin 6~99	
STR-F6456S		S-80743AL-A7-S	TDA7481	

SECTION 7
EXPLODED VIEWS

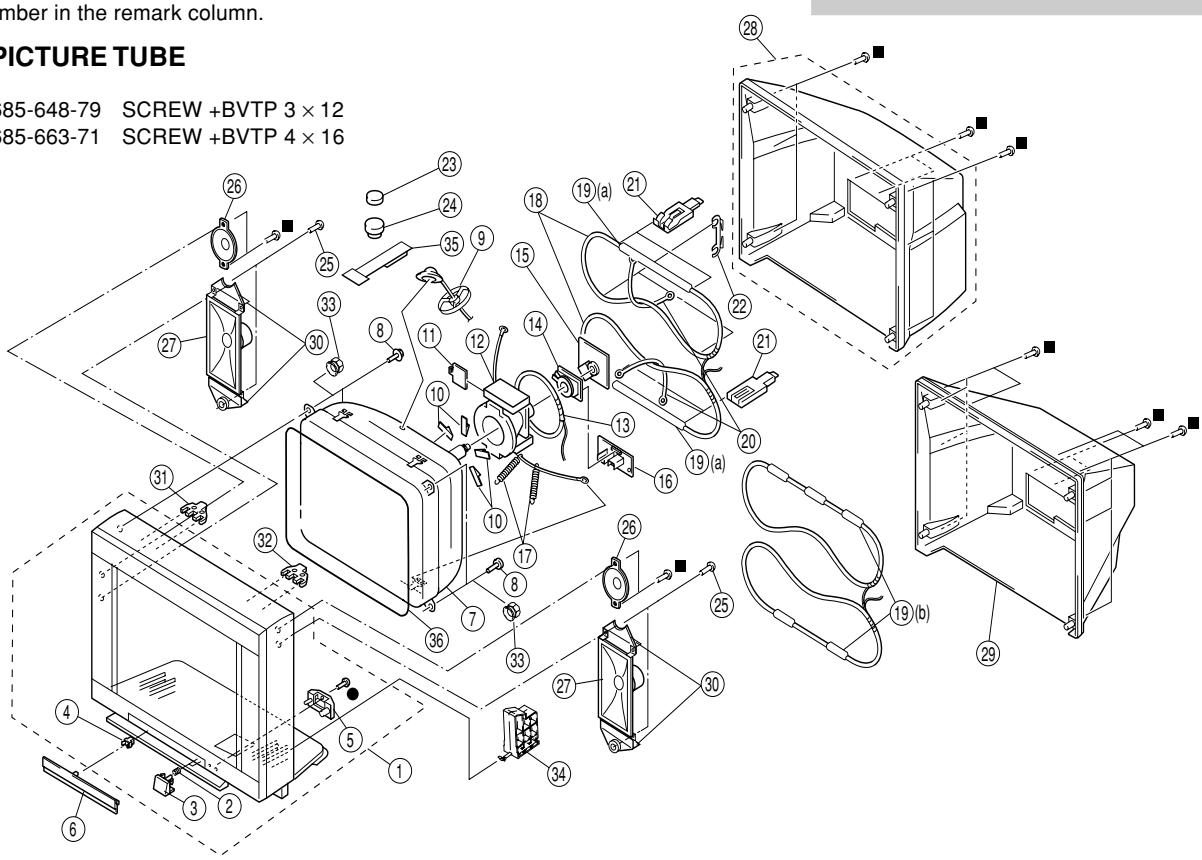
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. PICTURE TUBE

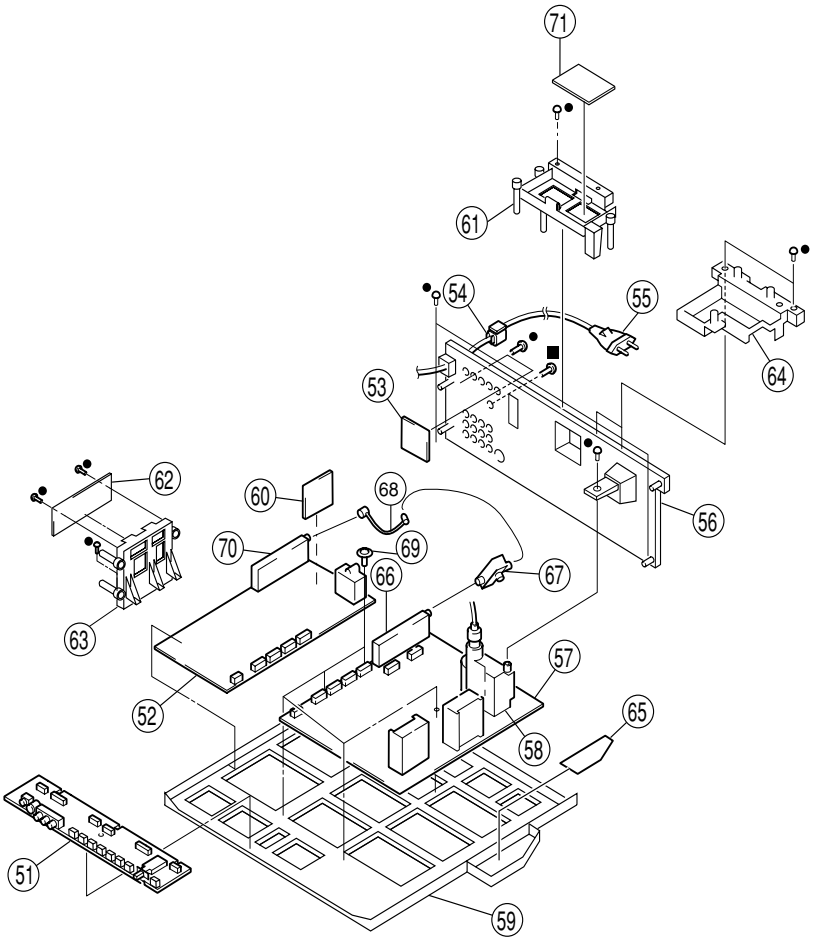
● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.		PART NO.	DESCRIPTION	REMARK
1		X-4038-717-1	BEZNET ASSY (KV-XA29M67/97)	2 ~ 5
		X-4038-540-2	BEZNET ASSY (KV-XA34M67/97)	2 ~ 5
2		4-036-405-11	SPRING, COMPRESSION	
3		4-075-747-01	BUTTON, POWER	
4		4-047-464-01	CATCHER, PUSH	
5	*	4-075-749-01	GUIDE, LIGHT	
6		4-078-944-91	CONTROL, DOOR	
7	⚠	8-735-056-05	PICTURE TUBE (M68LNH070X) (KV-XA29M67)	
	⚠	8-735-057-05	PICTURE TUBE (M68LNH070X) (KV-XA29M97)	
	⚠	8-735-076-05	PICTURE TUBE (A80LPD90X) (KV-XA34M97)	
	⚠	8-735-077-05	PICTURE TUBE (A80LPD90X) (KV-XA34M67)	
8		4-046-765-12	SCREW, TAPPING 7 + CROWN WASHER	
9	*	3-704-372-41	HOLDER, HV CABLE	
10		4-046-600-11	SPACER, DY	
11		4-077-228-02	PIECE, TLH CONVERGENCE	
12	⚠	8-451-494-31	DEFLECTION YOKE (Y29RSA-S) (KV-XA29M67/97)	
	⚠	8-451-499-31	DEFLECTION YOKE (Y34RSA-Y) (KV-XA34M67/97)	
13		1-452-896-61	COIL, NA ROTATION (KV-XA29M67/97)	
		1-419-603-11	COIL, NA ROTATION (KV-XA34M67/97)	
14		8-453-011-11	NA299-M	
15	*	A-1332-190-A	C6 BOARD MOUNTED (KV-XA29M67/97)	
	*	A-1332-201-A	C6 BOARD MOUNTED (KV-XA34M67/97)	
16	*	A-1342-613-A	VM1 BOARD MOUNTED	
17		4-369-318-61	SPRING, TENSION (KV-XA29M67/97)	
		4-078-766-01	SPRING, EXTENSION (KV-XA34M67/97)	
18	⚠	1-424-742-11	COIL, DEGAUSSING (KV-XA29M67/97)	
	⚠	1-419-293-21	COIL, DEGAUSSING (KV-XA34M67/97)	
19 (a)	*	4-069-208-01	CUSHION (50 x 550), DGC (KV-XA29M67/97)	
(b)	*	4-074-512-21	CUSHION (S), DGC (KV-XA34M67/97)	
20		4-079-376-01	BAND, DGC (KV-XA29M67/97)	
		4-067-455-01	BAND, DGC (KV-XA34M67/97)	
21	*	4-062-970-12	CLIP (29 RSN), DGC (KV-XA29M67/97)	
	*	4-062-493-02	CLIP (34 RSN), DGC (KV-XA34M67/97)	
22		4-064-883-03	HOLDER, DGC (KV-XA29M67/97)	
		4-061-369-01	HOLDER, DEGAUSE COIL (KV-XA34M67/97)	
23		1-452-032-00	MAGNET, DISC	
24		1-452-094-00	CIRCULAR DISC MAGNET B	
25		4-302-404-03	SCREW (WASHER HEAD) (+P 4 x 16)	
26		1-529-190-11	SPEAKER (5 CM) (KV-XA29M67/97)	
		1-544-895-11	SPEAKER (5 CM) (KV-XA34M67/97)	
27		1-529-563-11	SPEAKER (15 x 6.5 CM)	
28	⚠	X-4038-161-1	COVER ASSY, REAR (KV-XA29M67/97) (■ 12)	
29	⚠	4-076-066-01	COVER REAR (KV-XA34M67/97) (■ 14)	
30	*	4-046-981-11	BRACKET, SPEAKER	
31		X-4038-460-3	CRT (TOP LEFT) SUPPORT ASSY (KV-XA29M67/97)	
32		X-4038-461-3	CRT (TOP RIGHT) SUPPORT ASSY (KV-XA29M67/97)	
33	*	4-387-204-01	NUT SPECIAL CRT (KV-XA34M67/97)	
34	*	4-082-057-01	SUPPORT, CRT (KV-XA34M67/97)	
35		4-051-734-42	PIECE B (120) CONV, CORRECT	
36		1-416-871-11	COIL LANDING CORRECTION (KV-XA34M67/97)	

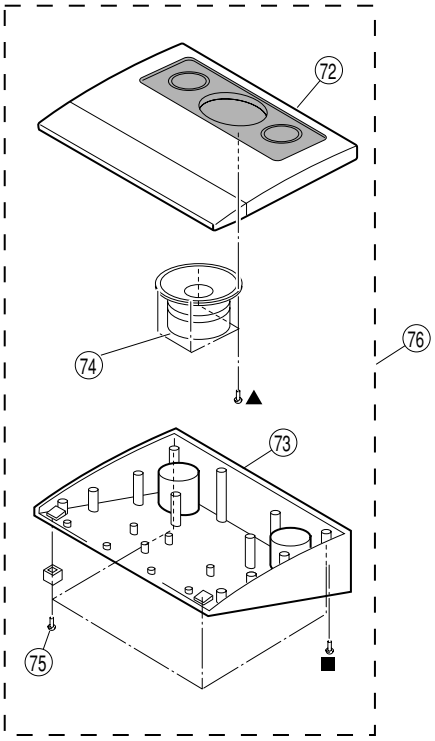
7-2. CHASSIS

● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16



7-3. 3D SPEAKER

▲ : 7-685-661-14 SCREW +BVTP 4 × 12



REF. NO.		PART NO.	DESCRIPTION	REMARK
51	*	A-1372-009-A	H BOARD MOUNTED	
52	*	A-1136-225-A	B BOARD COMPLETE (KV-XA29M67/97)	
	*	A-1136-224-A	B BOARD COMPLETE (KV-XA34M67/97)	
53	*	A-1388-326-A	J BOARD MOUNTED	
54	⚠	4-022-115-21	HOLDER, AC CORD	
55	⚠	1-782-452-11	CORD, POWER (WITH CONNECTOR)	
56	*	4-075-447-61	BRACKET, TERMINAL (■ 1)	
57	*	A-1299-546-A	A BOARD COMPLETE (KV-XA29M67/97)	
	*	A-1299-545-A	A BOARD COMPLETE (KV-XA34M67/97)	
58	⚠	1-453-305-11	TRANSFORMER ASSY, FLYBACK	
			(NX-4009//C6P4) (KV-XA29M67/97)	
	⚠	1-453-298-11	TRANSFORMER ASSY, FLYBACK	
			(NX4009//M3P) (KV-XA34M67/97)	
59	*	4-066-681-05	BRACKET, MAIN	
60	*	A-1190-394-A	P2 BOARD MOUNTED	
61	*	4-066-683-11	HOLDER, PWB	
62	*	A-1241-492-A	F BOARD MOUNTED	

REF. NO.		PART NO.	DESCRIPTION	REMARK
63	*	4-066-682-01	BRACKET, F PWB	
64		4-066-680-02	BRACKET, HVC	
65	*	A-1333-101-A	D3 BOARD MOUNTED (KV-XA29M67/97)	
	*	A-1333-125-A	D2 BOARD MOUNTED (KV-XA34M67/97)	
66		8-598-452-20	TUNER, FSS BTF-WG442	
67		1-215-658-21	SPLITTER RF	
68		1-555-110-00	P-P CABLE	
69		4-046-797-01	SCREW (3X12), (+)BVTAP	
70		8-598-508-10	TUNER, FSS BTF-LG436	
71	*	A-1333-124-A	DH BOARD MOUNTED (KV-XA34M67/97)	
72	*	4-076-059-01	3D BOX, TOP	
73		4-076-060-02	3D BOX BOTTOM	
74		1-529-839-11	SPEAKER (16CM)	
75		4-302-428-03	SCREW (WASHER HEAD) (+P3 x 12)	
76		A-1501-941-A	3D BOX ASSY	

SECTION 8
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : µF, PF : µµF

COILS
- MMH : mH, UH : µH

REF NO.	PART NO.	DESCRIPTION			
	* A-1299-546-A	A BOARD COMPLETE (KV-XA29M67/XA29M97)			
	* A-1299-545-A	A BOARD COMPLETE (KV-XA34M67/XA34M97)			
		**********			
	* 4-040-983-41	TERMINAL BOARD (D)			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	4-382-854-21	SCREW (M3X14), P, SW (+)			
		<CAPACITOR>			
C004	1-162-960-11	CERAMIC CHIP	220PF	10.00%	50V
C005	1-162-960-11	CERAMIC CHIP	220PF	10.00%	50V
C006	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C007	1-104-660-91	ELECT	47UF	20.00%	16V
C013	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C014	1-104-664-11	ELECT	47UF	20.00%	25V
C015	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C016	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C017	1-162-925-11	CERAMIC CHIP	68PF	5.00%	50V
C018	1-163-243-11	CERAMIC CHIP (KV-XA34M67/XA34M97 ONLY)	47PF	5.00%	50V
C019	1-104-664-11	ELECT	47UF	20.00%	25V
C020	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C022	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C023	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C024	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C026	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C027	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C028	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C030	1-126-965-91	ELECT	22UF	20.00%	50V
C031	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C032	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C041	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C042	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C043	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C044	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C047	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C048	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C050	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C051	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C053	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C056	1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
C103	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C104	1-104-665-11	ELECT	100UF	20.00%	10V
C107	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C108	1-104-660-91	ELECT	47UF	20.00%	16V
C109	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C110	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C111	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C112	1-104-660-91	ELECT	47UF	20.00%	16V
C113	1-104-664-11	ELECT	47UF	20.00%	25V

REF NO.	PART NO.	DESCRIPTION			
C114	1-126-967-11	ELECT	47UF	20.00%	50V
C115	1-126-967-11	ELECT	47UF	20.00%	50V
C116	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C117	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C118	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C300	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C301	1-126-935-11	ELECT	470UF	20.00%	16V
C302	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C303	1-125-798-91	ELECT	0.47UF	20.00%	63V
C304	1-126-967-11	ELECT	47UF	20.00%	50V
C305	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C306	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C307	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C308	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C309	1-137-378-11	MYLAR	0.22UF	5.00%	50V
C311	1-125-805-91	ELECT (KV-XA29M67/XA29M97)	4.7UF	20.00%	50V
C311	1-125-797-91	ELECT (KV-XA34M67/XA34M97)	10UF	20.00%	50V
C312	1-164-346-11	CERAMIC CHIP	1UF		16V
C313	1-164-346-11	CERAMIC CHIP	1UF		16V
C314	1-164-346-11	CERAMIC CHIP	1UF		16V
C315	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C316	1-126-934-11	ELECT (KV-XA29M67/XA29M97)	220UF	20.00%	16V
C316	1-104-664-11	ELECT (KV-XA34M67/XA34M97)	47UF	20.00%	25V
C317	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C318	1-162-974-11	CERAMIC CHIP	0.01UF		50V
C319	1-162-974-11	CERAMIC CHIP	0.01UF		50V
C320	1-162-974-11	CERAMIC CHIP	0.01UF		50V
C321	1-127-715-91	CERAMIC CHIP (KV-XA29M67/XA29M97 ONLY)	0.22UF	10%	16V
C322	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C324	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C325	1-126-960-11	ELECT	1UF	20.00%	50V
C327	1-126-965-91	ELECT	22UF	20.00%	50V
C328	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C329	1-125-805-91	ELECT	4.7UF	20.00%	50V
C330	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C331	1-125-805-91	ELECT	4.7UF	20.00%	50V
C332	1-125-805-91	ELECT	4.7UF	20.00%	50V
C335	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C336	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C337	1-125-800-91	ELECT	2.2UF	20.00%	63V
C341	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C342	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C347	1-126-933-11	ELECT	100UF	20.00%	16V
C348	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C349	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C350	1-162-974-11	CERAMIC CHIP	0.01UF		50V
C351	1-125-797-91	ELECT	10UF	20.00%	50V

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION			REMARK
C352	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C353	1-126-960-11	ELECT	1UF	20.00%	50V
C356	1-104-660-91	ELECT	47UF	20.00%	16V
C357	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C502	1-163-145-00	CERAMIC CHIP	0.0015UF	5.00%	50V
C503	1-125-797-91	ELECT	10UF	20.00%	50V
C504	1-163-007-11	CERAMIC CHIP	680PF	10.00%	50V
		(KV-XA34M67/XA34M97)			
C506	1-107-638-11	ELECT	33UF	20.00%	160V
C507	1-161-830-00	CERAMIC	0.0047UF		500V
		(KV-XA29M67/XA29M97)			
C507	1-102-244-00	CERAMIC	220PF	10.00%	500V
		(KV-XA34M67/XA34M97)			
C510	1-102-112-00	CERAMIC	330PF	10.00%	50V
		(KV-XA29M67/XA29M97)			
C510	1-102-074-00	CERAMIC	0.001UF	10.00%	50V
		(KV-XA34M67/XA34M97)			
C512	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
		(KV-XA29M67/XA29M97)			
C512	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
		(KV-XA34M67/XA34M97)			
C513	1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
		(KV-XA29M67/XA29M97)			
C513	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
		(KV-XA34M67/XA34M97)			
C514	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C517	1-162-967-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C518	1-104-665-11	ELECT	100UF	20.00%	10V
		(KV-XA29M67/XA29M97)			
C518	1-126-933-11	ELECT	100UF	20.00%	16V
		(KV-XA34M67/XA34M97)			
C519	1-102-212-00	CERAMIC	820PF	10.00%	500V
C521	1-126-934-11	ELECT	220UF	20.00%	16V
		(KV-XA29M67/XA29M97)			
C521	1-104-666-11	ELECT	220UF	20.00%	25V
		(KV-XA34M67/XA34M97)			
C522	1-126-933-11	ELECT	100UF	20.00%	16V
C523	1-102-002-00	CERAMIC	680PF	10.00%	500V
		(KV-XA29M67/XA29M97)			
C523	1-162-318-11	CERAMIC	0.001UF	10.00%	500V
		(KV-XA34M67/XA34M97)			
C524	1-126-967-11	ELECT	47UF	20.00%	50V
C526	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C527	1-102-820-00	CERAMIC	330PF	5.00%	50V
C528	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C530	1-137-372-11	MYLAR	0.022UF	5.00%	50V
C531	1-107-903-11	ELECT	2.2UF	20.00%	50V
C532	1-128-528-11	ELECT	470UF	20.00%	25V
C533	1-128-528-11	ELECT	470UF	20.00%	25V
C534	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C536	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C537	1-107-911-11	ELECT	220UF	20.00%	50V
C538	1-127-717-11	FILM	19000PF	3%	1.2KV
		(KV-XA29M67/XA29M97)			
C538	1-136-544-11	FILM	0.023UF	3.00%	2KV
		(KV-XA34M67/XA34M97)			
C539	1-129-723-00	FILM	0.056UF	5.00%	630V
		(KV-XA29M67/XA29M97)			
C539	1-130-118-91	FILM	0.051UF	5.00%	400V
		(KV-XA34M67/XA34M97)			
C540	1-136-171-00	FILM	0.33UF	5.00%	50V
C543	1-162-116-00	CERAMIC	680PF	10.00%	2KV
		(KV-XA34M67/XA34M97 ONLY)			
C546	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C548	1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
		(KV-XA34M67/XA34M97)			

REF NO.	PART NO.	DESCRIPTION			REMARK
C549	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C550	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C551	1-126-960-11	ELECT	1UF	20.00%	50V
C552	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C553	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C554	1-137-417-11	MYLAR	0.0047UF	10.00%	200V
		(KV-XA29M67/XA29M97)			
C554	1-106-361-00	MYLAR	0.0056UF	10.00%	100V
		(KV-XA34M67/XA34M97)			
C556	1-128-528-11	ELECT	470UF	20.00%	25V
C557	1-126-941-11	ELECT	470UF	20.00%	25V
C558	1-123-024-21	ELECT	33UF		160V
C560	1-102-228-00	CERAMIC	470PF	10.00%	500V
C561	1-129-898-00	FILM	0.0022UF	5.00%	630V
		(KV-XA29M67/XA29M97)			
C561	1-129-928-00	FILM	0.0027UF	5.00%	630V
		(KV-XA34M67/XA34M97)			
C562	1-102-228-00	CERAMIC	470PF	10.00%	500V
C564	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C565	1-107-655-11	ELECT	47UF	20.00%	250V
C566	1-102-244-00	CERAMIC	220PF	10.00%	500V
C567	1-115-520-11	FILM	0.68UF	5.00%	250V
		(KV-XA29M67/XA29M97)			
C567	1-109-961-11	FILM	0.75UF	5.00%	250V
		(KV-XA34M67/XA34M97)			
C568	1-102-228-00	CERAMIC	470PF	10.00%	500V
C570	1-115-522-11	FILM	1UF	5.00%	250V
		(KV-XA29M67/XA29M97)			
C570	1-117-674-71	FILM	1.8UF	5.00%	250V
		(KV-XA34M67/XA34M97)			
C572	1-117-661-21	FILM	0.15UF	5.00%	250V
C572	1-115-514-11	FILM	0.22UF	5.00%	250V
		(KV-XA34M67/XA34M97)			
C573	1-106-387-00	MYLAR	0.068UF	10.00%	200V
C574	1-104-709-11	ELECT	4.7UF		160V
C576	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C577	1-106-395-00	MYLAR	0.15UF	10.00%	200V
		(KV-XA29M67/XA29M97)			
C577	1-115-516-11	FILM	0.33UF	5.00%	250V
		(KV-XA34M67/XA34M97)			
C582	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
		(KV-XA29M67/XA29M97)			
C584	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
		(KV-XA29M67/XA29M97 ONLY)			
C586	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
		(KV-XA29M67/XA29M97)			
C586	1-216-295-91	SHORT	0		
		(KV-XA34M67/XA34M97)			
C600	⚠ 1-104-705-11	MYLAR	0.1UF	20.00%	250V
C602	⚠ 1-104-705-11	MYLAR	0.1UF	20.00%	250V
C603	1-126-967-11	ELECT	47UF	20.00%	50V
C604	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C605	⚠ 1-119-886-51	CERAMIC	470PF	10.00%	250V
C606	⚠ 1-119-886-51	CERAMIC	470PF	10.00%	250V
C607	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C608	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C609	1-126-968-11	ELECT	100UF	20.00%	50V
C610	1-125-797-91	ELECT	10UF	20.00%	50V
C611	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C612	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C613	1-125-906-11	ELECT	560UF	20.00%	450V
C614	1-125-797-91	ELECT	10UF	20.00%	50V
C615	⚠ 1-119-886-51	CERAMIC	470PF	10.00%	250V

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.		PART NO.	DESCRIPTION			
C616		1-130-202-00	FILM	0.022UF	5.00%	400V
C617		1-107-792-11	CERAMIC	100PF	5.00%	1KV
C618		1-125-893-11	FILM	680PF	3.00%	1.5KV
C619	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C620		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C621		1-102-114-00	CERAMIC	470PF	10.00%	50V
C622		1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C623		1-104-665-11	ELECT	100UF	20.00%	25V
C624		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C626		1-102-002-00	CERAMIC	680PF	10.00%	500V
C627		1-102-002-00	CERAMIC	680PF	10.00%	500V
C628		1-126-952-11	ELECT	1000UF	20.00%	35V
C629		1-125-797-91	ELECT	10UF	20.00%	50V
C630		1-125-494-11	ELECT(BLOCK)	560UF	20.00%	160V
C631		1-128-550-11	ELECT	2200UF	20.00%	50V
C632		1-126-936-11	ELECT	3300UF	20.00%	16V
C633		1-104-999-11	MYLAR	0.1UF	10.00%	200V
C634		1-126-933-11	ELECT (KV-XA29M67/XA29M97)	100UF	20.00%	16V
C634		1-126-934-11	ELECT (KV-XA34M67/XA34M97)	220UF	20.00%	16V
C635		1-104-665-11	ELECT	100UF	20.00%	10V
C636		1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C638		1-161-830-00	CERAMIC	0.0047UF		500V
C641		1-102-002-00	CERAMIC	680PF	10.00%	500V
C642		1-126-943-11	ELECT	2200UF	20.00%	25V
C643		1-104-665-11	ELECT (KV-XA29M67/XA29M97)	100UF	20.00%	10V
C643		1-126-933-11	ELECT (KV-XA34M67/XA34M97)	100UF	20.00%	16V
C644		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C645		1-137-605-11	MYLAR	0.01UF	10.00%	250V
C646		1-107-679-91	ELECT	10UF	20.00%	450V
C647		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C649		1-126-940-11	ELECT	330UF	20.00%	25V
C650		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C651		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C652		1-126-965-91	ELECT	22UF	20.00%	50V
C653		1-104-664-11	ELECT (KV-XA29M67/XA29M97)	47UF	20.00%	25V
C653		1-126-967-11	ELECT (KV-XA34M67/XA34M97)	47UF	20.00%	50V
C655	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C657		1-101-821-00	CERAMIC	0.0022UF		500V
C659		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C912		1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C913		1-104-665-11	ELECT	100UF	20.00%	10V

<CONNECTOR>

CN101	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN102	*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P
CN104		1-695-915-11	TAB (CONTACT)
CN105		1-695-915-11	TAB (CONTACT)
CN106		1-564-506-11	PLUG, CONNECTOR 3P
CN201	*	1-564-508-11	PLUG, CONNECTOR 5P
CN202	*	1-508-847-00	PIN, CONNECTOR 4P
CN302	*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P
CN303	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN305		1-564-509-11	PLUG, CONNECTOR 6P
CN501	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P (KV-XA29M67/XA29M97 ONLY)
CN502	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P (KV-XA29M67/XA29M97 ONLY)
CN503	*	1-564-510-11	PLUG, CONNECTOR 7P
CN504		1-695-915-11	TAB (CONTACT)
CN505	*	1-564-508-11	PLUG, CONNECTOR 5P
CN507	*	1-564-509-11	PLUG, CONNECTOR 6P
CN508		1-695-915-11	TAB (CONTACT)
CN510		1-564-507-21	PLUG, CONNECTOR 4P (KV-XA34M67/XA34M97) ONLY)
CN601		1-580-843-11	PIN, CONNECTOR (POWER)
CN602	*	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CN603	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P
CN604	*	1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P (KV-XA29M67/XA29M97)
CN604	*	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P (KV-XA34M67/XA34M97)
CN605		1-564-507-11	PLUG, CONNECTOR 4P
CN608		1-564-507-41	PLUG, CONNECTOR 4P
CN904	*	1-564-512-11	PLUG, CONNECTOR 9P

<DIODE>

D001		8-719-988-61	1SS355TE-17
D002		8-719-988-61	1SS355TE-17
D004		1-216-295-91	SHORT 0
D005		8-719-988-61	1SS355TE-17
D006		1-216-295-91	SHORT 0
D007		8-719-988-61	1SS355TE-17
D008		8-719-988-61	1SS355TE-17
D009		8-719-988-61	1SS355TE-17
D100		8-719-988-61	1SS355TE-17
D300		1-216-295-91	SHORT 0
D301		8-719-988-61	1SS355TE-17
D306		8-719-988-61	1SS355TE-17
D307		8-719-988-61	1SS355TE-17
D308		8-719-988-61	1SS355TE-17
D309		8-719-159-10	RD5.1SB-T2
D311		8-719-988-61	1SS355TE-17
D312		8-719-988-61	1SS355TE-17
D313		8-719-988-61	1SS355TE-17
D315		8-719-988-61	1SS355TE-17
D316		8-719-037-20	RD11SB2-T1 (KV-XA29M67/XA29M97)
D316		8-719-158-35	RD9.1S-B (KV-XA34M67/XA34M97)
D320		8-719-158-35	RD9.1S-B
D321		8-719-158-35	RD9.1S-B
D504		8-719-302-43	EL1Z
D505		8-719-988-61	1SS355TE-17
D506		8-719-911-19	1SS119-25
D507		8-719-988-61	1SS355TE-17
D508		8-719-988-61	1SS355TE-17
D509		1-216-073-91	RES-CHIP 10K 5% 1/10W (KV-XA29M67/XA29M97)
D509		8-719-036-94	RD5.6SB-T1 (KV-XA34M67/XA34M97)
D510		8-719-988-61	1SS355TE-17
D511		8-719-988-61	1SS355TE-17
D512		8-719-988-61	1SS355TE-17
D513		8-719-908-03	GP08D
D517		8-719-312-71	RS3FS (KV-XA29M67/XA29M97)
D517		8-719-945-80	ERC06-15S (KV-XA34M67/XA34M97)
D518		8-719-074-35	RU4AM-T4
D519		8-719-312-71	RS3FS (KV-XA29M67/XA29M97)
D519		8-719-945-80	ERC06-15S (KV-XA34M67/XA34M97)
D520		8-719-988-61	1SS355TE-17 (KV-XA34M67/XA34M97 ONLY)
D521		8-719-028-45	D2L20U (KV-XA34M67/XA34M97)
D521		8-719-302-43	EL1Z (KV-XA29M67/XA29M97)

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REF NO.	PART NO.	DESCRIPTION	REMARK
D522	8-719-028-45	D2L20U	
D523	8-719-302-43	EL1Z (KV-XA29M67/XA29M97)	
D523	8-719-028-45	D2L20U (KV-XA34M67/XA34M97)	
D527	8-719-908-03	GP08D	
D528	8-719-908-03	GP08D	
D531	8-719-988-61	1SS355TE-17 (KV-XA34M67/XA34M97 ONLY)	
D532	8-719-988-61	1SS355TE-17	
D534	8-719-988-61	1SS355TE-17 (KV-XA29M67/XA29M97)	
D534	1-216-295-91	SHORT 0 (KV-XA34M67/XA34M97)	
D600	8-719-911-19	1SS119-25	
D602	8-719-911-19	1SS119-25	
D603	8-719-150-92	RD33EB3T	
D604	8-719-028-72	RGP02-17EL-6433	
D605	8-719-510-22	D3SB60	
D606	8-719-108-18	5P-6M	
D607	8-719-404-50	MA111-TX	
D608	8-719-110-53	RD20ES-B2	
D609	8-719-311-31	RU-1P	
D610	8-719-043-76	AK04V0	
D611	8-719-046-74	AU-01Z-V1	
D612	8-719-071-38	D5S6M	
D613	8-719-046-74	AU-01Z-V1	
D614	8-719-046-74	AU-01Z-V1	
D615	8-719-312-10	RU4AM-T3 (KV-XA29M67/XA29M97 ONLY)	
D616	8-719-083-56	30DF2N-FC5 (KV-XA29M67/XA29M97 ONLY)	
D617	8-719-067-18	RN4Z	
D618	8-719-067-18	RN4Z	
D620	8-719-110-72	RD30ESB2	
D622	8-719-077-49	D3L60 (KV-XA34M67/XA34M97 ONLY)	
D623	8-719-978-65	DTZ-TT11-15B	
D624	8-719-404-50	MA111-TX	
D625	8-719-977-28	DTZ10B	
D627	8-719-083-56	30DF2N-FC5 (KV-XA29M67/XA29M97 ONLY)	
D628	8-719-911-19	1SS119-25	
D630	8-719-052-74	FMX-12S (KV-XA34M67/XA34M97 ONLY)	
D631	8-719-068-00	ERC04-06SE	
D632	8-719-068-00	ERC04-06SE	
D633	8-719-948-45	ERA22-08	
D634	8-719-404-50	MA111-TX	
D635	8-719-404-50	MA111-TX	
D636	8-719-510-02	D1NS4	
D637	8-719-109-96	RD6.8ES-B1	
D638	8-719-510-48	D1N20R	
		<CONNECTOR>	
DY1	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
		<FERRITE BEAD>	
FB101	1-216-295-91	SHORT 0	
FB102	1-216-295-91	SHORT 0	
FB300	1-412-911-31	FERRITE 0UH	
FB501	1-410-397-21	FERRITE 1.1UH	
FB502	1-410-397-21	FERRITE 1.1UH	
FB600	1-410-397-21	FERRITE 1.1UH	
FB601	1-410-397-21	FERRITE 1.1UH	
FB602	1-410-397-21	FERRITE 1.1UH	
FB603	1-410-397-21	FERRITE 1.1UH	
FB604	1-412-911-31	FERRITE 0UH	
FB605	1-412-911-31	FERRITE 0UH	
FB606	1-412-911-31	FERRITE 0UH	
FB607	1-410-397-21	FERRITE 1.1UH	
FB608	1-412-911-31	FERRITE 0UH	
FB611	1-410-397-21	FERRITE 1.1UH	
FB612	1-410-397-21	FERRITE 1.1UH	
FB613	1-410-397-21	FERRITE 1.1UH	
FB615	1-410-397-21	FERRITE 1.1UH	
		<IC>	
IC001	8-752-917-80	CXP750097-032S	
IC002	8-759-371-21	MM1319AFBE	
IC003	8-759-672-78	M24C08-BN6(A)	
IC100	8-759-042-02	S-80743AL-A7-S	
IC301	8-752-095-72	CXA2159S	
IC302	8-759-666-90	IC TDA9181T	
IC502	8-759-700-07	NJM2903M	
IC503	8-759-980-58	TDA8172	
IC601	8-749-019-09	IC STR-F6456S	
IC602	8-749-920-61	SE-135N	
IC603	8-759-701-59	NJM78M09FA	
IC604	8-759-231-53	TA7805S	
		<CHIP CONDUCTOR>	
JR001	1-216-295-91	SHORT 0	
JR002	1-216-295-91	SHORT 0	
JR003	1-216-295-91	SHORT 0	
JR004	1-216-295-91	SHORT 0	
JR006	1-216-295-91	SHORT 0	
JR007	1-216-295-91	SHORT 0	
JR008	1-216-295-91	SHORT 0	
JR010	1-216-295-91	SHORT 0	
JR012	1-216-295-91	SHORT 0	
JR014	1-216-295-91	SHORT 0	
JR015	1-216-295-91	SHORT 0	
JR016	1-216-295-91	SHORT 0	
JR020	1-216-295-91	SHORT 0	
JR022	1-216-295-91	SHORT 0	
JR023	1-216-295-91	SHORT 0	
JR024	1-216-295-91	SHORT 0	
JR025	1-216-295-91	SHORT 0	
JR028	1-216-295-91	SHORT 0	
JR030	1-216-295-91	SHORT 0	
JR031	1-216-295-91	SHORT 0	
JR102	1-216-295-91	SHORT 0	
JR107	1-216-295-91	SHORT 0	
JR214	1-216-295-91	SHORT 0	
JR304	1-216-295-91	SHORT 0	
JR308	1-216-295-91	SHORT 0	
JR309	1-216-295-91	SHORT 0	
JR310	1-216-295-91	SHORT 0	
JR311	1-216-295-91	SHORT 0	
JR400	1-216-295-91	SHORT 0 (KV-XA34M67/XA34M97 ONLY)	
JR500	1-216-295-91	SHORT 0	
JR501	1-216-295-91	SHORT 0	
JR502	1-216-295-91	SHORT 0	
JR503	1-216-295-91	SHORT 0	
JR600	1-216-295-91	SHORT 0	

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION	REMARK
		<COIL>	
L002	1-414-856-11	INDUCTOR 10UH	
L003	1-414-180-11	INDUCTOR 3.3UH	
L005	1-414-233-22	FERRITE 0UH	
L101	1-414-856-11	INDUCTOR 10UH	
L102	1-414-856-11	INDUCTOR 10UH	
L103	1-414-856-11	INDUCTOR 10UH	
L104	1-414-856-11	INDUCTOR 10UH	
L105	1-414-856-11	INDUCTOR 10UH	
L301	1-414-189-31	INDUCTOR 100UH	
L302	1-414-185-41	INDUCTOR 22UH	
L303	1-414-189-31	INDUCTOR 100UH	
L304	1-414-189-31	INDUCTOR 100UH	
L501	1-412-525-31	INDUCTOR 10UH	
L502	1-422-613-11	COIL, AIR CORE	
L503	1-412-525-31	INDUCTOR 10UH	
L504	1-412-525-31	INDUCTOR 10UH	
L507	1-459-111-00	INDUCTOR 10MH	
L511	1-406-977-71	INDUCTOR 0UH	
L512	1-412-549-31	INDUCTOR 1MH (KV-XA34M67/XA34M97 ONLY)	
L513	1-412-551-31	INDUCTOR 1.5MH (KV-XA29M67/XA29M97)	
L513	1-412-549-31	INDUCTOR 1MH (KV-XA34M67/XA34M97)	
L515	1-459-104-00	INDUCTOR 10MH	
L518	1-414-187-11	INDUCTOR 47UH	
L601	1-412-527-11	INDUCTOR 15UH	
L905	1-414-856-11	INDUCTOR 10UH	
		<PHOTO COUPLER>	
PH600 ⚠	8-749-924-35	ON3171-R	
		<TRANSISTOR>	
Q001	8-729-216-22	2SA1162-G	
Q002	8-729-230-49	2SC2712-YG	
Q101	8-729-230-49	2SC2712-YG	
Q301	8-729-216-22	2SA1162-G	
Q302	8-729-230-49	2SC2712-YG	
Q303	8-729-216-22	2SA1162-G	
Q304	8-729-216-22	2SA1162-G	
Q305	8-729-216-22	2SA1162-G	
Q306	8-729-230-49	2SC2712-YG	
Q307	8-729-230-49	2SC2712-YG	
Q308	8-729-216-22	2SA1162-G	
Q309	8-729-421-19	UN2213	
Q310	8-729-230-49	2SC2712-YG	
Q311	8-729-230-49	2SC2712-YG	
Q312	8-729-216-22	2SA1162-G	
Q313	8-729-230-49	2SC2712-YG	
Q314	8-729-216-22	2SA1162-G	
Q315	8-729-421-19	UN2213	
Q316	8-729-216-22	2SA1162-G	
Q317	8-729-216-22	2SA1162-G	
Q501	8-729-216-22	2SA1162-G	
Q502	8-729-216-22	2SA1162-G	
Q503	8-729-230-49	2SC2712-YG	
Q505	8-729-931-45	IRF614	
Q506	8-729-119-80	2SC2688-LK	
Q507	8-729-216-22	2SA1162-G	
Q509	8-729-230-49	2SC2712-YG	
Q511	8-729-048-07	2SD2578-CA (KV-XA29M67/XA29M97)	
Q511	8-729-016-32	2SC4927-01 (KV-XA34M67/XA34M97)	
Q600	8-729-119-78	2SC2785-HFE	
Q601	8-729-023-22	2SD2114K	
Q602	8-729-230-49	2SC2712-YG	
Q603	8-729-424-08	UN2111 (KV-XA29M67/XA29M97)	
Q603	8-729-027-23	DTA114EKA-T146 (KV-XA34M67/XA34M97)	
Q604	8-729-200-17	2SA1091-O	
Q605	8-729-044-30	2SK2845-LB102	
Q606	8-729-230-49	2SC2712-YG	
Q607	8-729-823-22	2SC3576	
Q608	8-729-230-49	2SC2712-YG	
		<RESISTOR>	
R001	1-414-233-22	FERRITE 0UH	
R002	1-216-025-11	RES-CHIP 100 5% 1/10W	
R003	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R004	1-216-025-11	RES-CHIP 100 5% 1/10W	
R005	1-216-025-11	RES-CHIP 100 5% 1/10W	
R008	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R010	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R011	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R012	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R013	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R014	1-216-025-11	RES-CHIP 100 5% 1/10W	
R015	1-216-025-11	RES-CHIP 100 5% 1/10W	
R017	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R018	1-216-033-00	RES-CHIP 220 5% 1/10W	
R019	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R020	1-216-045-00	RES-CHIP 680 5% 1/10W	
R021	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R022	1-216-295-91	SHORT 0	
R023	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R024	1-216-063-91	RES-CHIP 3.9K 5% 1/10W	
R025	1-216-063-91	RES-CHIP 3.9K 5% 1/10W	
R026	1-216-063-91	RES-CHIP 3.9K 5% 1/10W	
R027	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R028	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R029	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R031	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R032	1-216-025-11	RES-CHIP 100 5% 1/10W	
R034	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R035	1-216-025-11	RES-CHIP 100 5% 1/10W	
R036	1-216-025-11	RES-CHIP 100 5% 1/10W	
R037	1-216-025-11	RES-CHIP 100 5% 1/10W	
R038	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R040	1-216-025-11	RES-CHIP 100 5% 1/10W	
R041	1-216-025-11	RES-CHIP 100 5% 1/10W	
R042	1-216-295-91	SHORT 0	
R043	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R044	1-216-025-11	RES-CHIP 100 5% 1/10W	
R045	1-414-233-22	FERRITE 0UH	
R046	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R047	1-414-233-22	FERRITE 0UH	
R048	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R050	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R053	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R058	1-216-295-91	SHORT 0	
R059	1-216-295-91	SHORT 0	
R060	1-216-295-91	SHORT 0	
R061	1-216-295-91	SHORT 0	
R062	1-216-041-00	RES-CHIP 470 5% 1/10W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R063	1-216-041-00	RES-CHIP	470	5%	1/10W
R064	1-216-041-00	RES-CHIP	470	5%	1/10W
R065	1-216-041-00	RES-CHIP	470	5%	1/10W
R066	1-216-049-11	RES-CHIP	1K	5%	1/10W
R067	1-216-049-11	RES-CHIP	1K	5%	1/10W
R068	1-216-041-00	RES-CHIP	470	5%	1/10W
R101	1-216-025-11	RES-CHIP	100	5%	1/10W
R102	1-216-025-11	RES-CHIP	100	5%	1/10W
R105	1-216-295-91	SHORT	0		
R109	1-216-041-00	RES-CHIP	470	5%	1/10W
R111	1-216-025-11	RES-CHIP	100	5%	1/10W
R112	1-216-025-11	RES-CHIP	100	5%	1/10W
R113	1-216-025-11	RES-CHIP	100	5%	1/10W
R225	1-216-033-00	RES-CHIP	220	5%	1/10W
R226	1-216-033-00	RES-CHIP	220	5%	1/10W
R227	1-216-033-00	RES-CHIP	220	5%	1/10W
R237	1-216-295-91	SHORT	0		
R301	1-216-113-00	RES-CHIP	470K	5%	1/10W
R302	1-216-295-91	SHORT	0		
R303	1-216-049-11	RES-CHIP	1K	5%	1/10W
R304	1-216-073-91	RES-CHIP	10K	5%	1/10W
R308	1-216-025-11	RES-CHIP	100	5%	1/10W
R309	1-216-025-11	RES-CHIP	100	5%	1/10W
R310	1-216-025-11	RES-CHIP	100	5%	1/10W
R311	1-216-041-00	RES-CHIP	470	5%	1/10W
R312	1-216-039-00	RES-CHIP	390	5%	1/10W
R313	1-216-037-00	RES-CHIP	330	5%	1/10W
R314	1-216-083-00	RES-CHIP	27K	5%	1/10W
R315	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R316	1-216-037-00	RES-CHIP	330	5%	1/10W
R317	1-216-091-00	RES-CHIP	56K	5%	1/10W
R318	1-216-039-00	RES-CHIP	390	5%	1/10W
R319	1-216-025-11	RES-CHIP	100	5%	1/10W
R320	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R321	1-216-073-91	RES-CHIP	10K	5%	1/10W
R322	1-216-033-00	RES-CHIP	220	5%	1/10W
R323	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R324	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R326	1-216-029-00	RES-CHIP	150	5%	1/10W
R327	1-216-033-00	RES-CHIP	220	5%	1/10W
R328	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R329	1-216-041-00	RES-CHIP	470	5%	1/10W
R331	1-216-295-91	SHORT	0		
R332	1-216-033-00	RES-CHIP	220	5%	1/10W
R335	1-216-045-00	RES-CHIP	680	5%	1/10W
R336	1-216-049-11	RES-CHIP (KV-XA34M67/XA34M97 ONLY)	1K	5%	1/10W
R338	1-216-037-00	RES-CHIP (KV-XA29M67/XA29M97)	330	5%	1/10W
R338	1-216-029-00	RES-CHIP (KV-XA34M67/XA34M97)	150	5%	1/10W
R339	1-216-033-00	RES-CHIP	220	5%	1/10W
R340	1-216-025-11	RES-CHIP	100	5%	1/10W
R345	1-216-081-00	RES-CHIP (KV-XA29M67/XA29M97)	22K	5%	1/10W
R345	1-216-073-91	RES-CHIP (KV-XA34M67/XA34M97	10K	5%	1/10W
R348	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R349	1-216-073-91	RES-CHIP	10K	5%	1/10W
R350	1-216-061-91	RES-CHIP (KV-XA29M67/XA29M97)	3.3K	5%	1/10W
R350	1-216-057-00	RES-CHIP (KV-XA34M67/XA34M97	2.2K	5%	1/10W
R351	1-216-053-00	RES-CHIP (KV-XA29M67/XA29M97)	1.5K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R351	1-216-049-11	RES-CHIP (KV-XA34M67/XA34M97)	1K	5%	1/10W
R354	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R355	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R356	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R357	1-216-079-00	RES-CHIP	18K	5%	1/10W
R358	1-216-049-11	RES-CHIP	1K	5%	1/10W
R359	1-216-033-00	RES-CHIP	220	5%	1/10W
R360	1-216-033-00	RES-CHIP	220	5%	1/10W
R361	1-216-073-91	RES-CHIP	10K	5%	1/10W
R362	1-216-075-00	RES-CHIP	12K	5%	1/10W
R363	1-216-079-00	RES-CHIP	18K	5%	1/10W
R364	⚠ 1-216-295-91	SHORT	0		
R365	1-216-033-00	RES-CHIP	220	5%	1/10W
R366	1-216-073-91	RES-CHIP	10K	5%	1/10W
R367	1-216-073-91	RES-CHIP	10K	5%	1/10W
R368	1-216-073-91	RES-CHIP	10K	5%	1/10W
R370	1-216-033-00	RES-CHIP	220	5%	1/10W
R371	1-216-083-00	RES-CHIP	27K	5%	1/10W
R372	1-216-091-00	RES-CHIP	56K	5%	1/10W
R376	1-216-081-00	RES-CHIP	22K	5%	1/10W
R377	1-216-121-11	RES-CHIP	1M	5%	1/10W
R378	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R379	1-218-179-11	RES-CHIP	10M	5%	1/10W
R381	1-216-295-91	SHORT	0		
R382	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R383	1-216-049-11	RES-CHIP	1K	5%	1/10W
R384	1-216-041-00	RES-CHIP	470	5%	1/10W
R385	1-216-029-00	RES-CHIP	150	5%	1/10W
R391	1-216-295-91	SHORT	0		
R500	1-249-381-11	CARBON	1K	5%	1/4W
R501	1-216-049-11	RES-CHIP	1K	5%	1/10W
R505	1-208-830-11	METAL CHIP (KV-XA29M67/XA29M97)	100K	0.5%	1/10W
R505	1-216-113-00	RES-CHIP (KV-XA34M67/XA34M97))	470K	5%	1/10W
R506	1-216-081-00	RES-CHIP (KV-XA29M67/XA29M97)	22K	5%	1/10W
R506	1-216-079-00	RES-CHIP (KV-XA34M67/XA34M97)	18K	5%	1/10W
R507	1-249-389-11	CARBON	4.7	5%	1/4W
R508	1-216-471-11	METAL OXIDE (KV-XA29M67/XA29M97)	27	5%	3W
R508	1-215-909-11	METAL OXIDE (KV-XA34M67/XA34M97)	47	5%	3W
R509	1-216-473-11	METAL OXIDE (KV-XA29M67/XA29M97)	56	5%	3W
R509	1-216-474-11	METAL OXIDE (KV-XA34M67/XA34M97)	82	5%	3W
R510	1-216-449-11	METAL OXIDE (KV-XA29M67/XA29M97)	56	5%	2W
R510	1-216-424-11	METAL OXIDE (KV-XA34M67/XA34M97)	39	5%	1W
R511	1-215-908-00	METAL OXIDE (KV-XA29M67/XA29M97)	33	5%	3W
R511	1-216-399-00	METAL OXIDE (KV-XA34M67/XA34M97)	6.8	5%	3W
R515	1-215-911-11	METAL OXIDE (KV-XA29M67/XA29M97)	100	5%	3W
R515	1-216-349-00	METAL OXIDE (KV-XA34M67/XA34M97)	1	5%	1W
R517	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R518	1-249-441-11	CARBON	100	5%	1/4W
R519	1-215-913-11	METAL OXIDE (KV-XA29M67/XA29M97)	220	5%	3W
R519	1-216-469-11	METAL OXIDE (KV-XA34M67/XA34M97)	12	5%	3W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R520	1-215-445-00	METAL	10K	1%	1/4W
R522	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R523	1-247-891-00	CARBON	330	5%	1/4W
R525	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R525	1-208-854-11	METAL CHIP	1M	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R526	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R526	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R527	1-216-001-00	RES-CHIP	10	5%	1/10W
R528	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R529	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R531	1-249-387-11	CARBON	3.3K	5%	1/4W
R532	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-XA34M67/XA34M97 ONLY)			
R533	1-249-381-11	CARBON	1K	5%	1/4W
R534	1-216-364-11	METAL OXIDE	0.39	5%	2W
R535	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R536	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R537	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R539	1-216-049-11	RES-CHIP	1K	5%	1/10W
R540	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R541	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R542	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-XA29M67/XA29M97)			
R542	1-216-097-11	RES-CHIP	100K	5%	1/10W
		(KV-XA34M67/XA34M97)			
R543	1-216-437-00	METAL OXIDE	5.6K	5%	1W
R544	1-215-917-11	METAL OXIDE	1K	5%	3W
		(KV-XA29M67/XA29M97)			
R544	1-216-480-11	METAL OXIDE	820	5%	3W
		(KV-XA34M67/XA34M97)			
R545	1-216-077-91	RES-CHIP	15K	5%	1/10W
R546	1-216-077-91	RES-CHIP	15K	5%	1/10W
R547	1-216-085-91	RES-CHIP	33K	5%	1/10W
R548	1-208-796-11	METAL CHIP	3.9K	0.5%	1/10W
R549	1-215-452-00	METAL	20K	1%	1/4W
		(KV-XA29M67/XA29M97)			
R549	1-215-451-00	METAL	18K	1%	1/4W
		(KV-XA34M67/XA34M97)			
R550	1-216-097-11	RES-CHIP	100K	5%	1/10W
R551	1-247-807-31	CARBON	100K	5%	1/4W
		(KV-XA29M67/XA29M97)			
R551	1-249-385-11	CARBON	2.2K	5%	1/4W
		(KV-XA34M67/XA34M97)			
R552	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R553	1-215-453-00	METAL	22K	1%	1/4W
R554	1-215-453-00	METAL	22K	1%	1/4W
R556	1-215-437-00	METAL	4.7K	1%	1/4W
R557	1-216-361-00	METAL OXIDE	0.22	5%	2W
		(KV-XA34M67/XA34M97 ONLY)			
R558	1-249-387-11	CARBON	3.3K	5%	1/4W
R559	1-249-393-11	CARBON	10K	5%	1/4W
R560	1-216-073-91	RES-CHIP	10K	5%	1/10W
R561	1-216-049-11	RES-CHIP	1K	5%	1/10W
R562	1-247-871-91	CARBON	47	5%	1/4W
R564	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R564	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R565	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-XA29M67/XA29M97)			
R565	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
		(KV-XA34M67/XA34M97)			

REF NO.	PART NO.	DESCRIPTION		REMARK	
R567	1-216-105-91	RES-CHIP	220K	5%	1/10W
		(KV-XA29M67/XA29M97 ONLY)			
R568	1-249-383-11	CARBON	1.5	5%	1/4W
R570	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R571	1-215-443-00	METAL	8.2K	1%	1/4W
		(KV-XA29M67/XA29M97)			
R571	1-215-442-00	METAL	7.5K	1%	1/4W
		(KV-XA34M67/XA34M97)			
R573	1-216-083-00	RES-CHIP	27K	5%	1/10W
		(KV-XA29M67/XA29M97 ONLY)			
R575	1-208-796-11	METAL CHIP	3.9K	0.5%	1/10W
R577	1-215-913-11	METAL OXIDE	220	5%	3W
R578	1-216-369-00	METAL OXIDE	1	5%	2W
R579	1-216-295-91	SHORT	0		
R580	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R581	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R581	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R582	1-208-842-11	METAL CHIP	330K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R582	1-216-295-91	SHORT	0		
		(KV-XA34M67/XA34M97)			
R583	1-216-125-00	RES-CHIP	1.5M	5%	1/10W
		(KV-XA34M97 ONLY)			
R584	1-208-838-91	METAL CHIP	220K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R584	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R585	1-249-385-11	CARBON	2.2	5%	1/4W
		(KV-XA29M67/XA29M97)			
R585	1-249-381-11	CARBON	1	5%	1/4W
		(KV-XA34M67/XA34M97)			
R587	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R587	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R588	1-215-888-00	METAL OXIDE	220	5%	2W
		(KV-XA29M67/XA29M97)			
R588	1-215-911-11	METAL OXIDE	100	5%	3W
		(KV-XA34M67/XA34M97)			
R589	1-215-888-00	METAL OXIDE	220	5%	2W
		(KV-XA29M67/XA29M97)			
R589	1-215-886-11	METAL OXIDE	100	5%	2W
		(KV-XA34M67/XA34M97)			
R590	1-215-465-00	METAL	68K	1%	1/4W
R591	1-260-288-11	CARBON	0.47	5%	1/2W
R592	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
		(KV-XA29M67/XA29M97)			
R592	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
		(KV-XA34M67/XA34M97)			
R593	1-260-288-11	CARBON	0.47	5%	1/2W
R594	1-260-288-11	CARBON	0.47	5%	1/2W
R595	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-XA29M67/XA29M97) ONLY)			
R596	1-215-916-00	METAL OXIDE	680	5%	3W
		(KV-XA29M67/XA29M97)			
R596	1-216-480-11	METAL OXIDE	820	5%	3W
		(KV-XA34M67/XA34M97)			
R597	1-247-750-11	CARBON	680	5%	1/2W
R598	1-249-402-11	CARBON	56K	5%	1/4W
R599	1-249-425-11	CARBON	4.7	5%	1/4W
R600	1-249-402-11	CARBON	56K	5%	1/4W
R601	1-249-420-11	CARBON	1.8K	5%	1/4W
		(KV-XA29M67/XA29M97)			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A **B**

REF NO.		PART NO.	DESCRIPTION		REMARK	
R601		1-249-417-11	CARBON (KV-XA34M67/XA34M97)	1K	5%	1/4W
R602		1-249-389-11	CARBON	4.7	5%	1/4W
R603		1-215-485-00	METAL	470K	1%	1/4W
R604		1-216-097-11	RES-CHIP	100K	5%	1/10W
R607		1-249-389-11	CARBON	4.7K	5%	1/4W
R608		1-240-205-91	CARBON	22M	5%	1/2W
R609		1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R610		1-216-073-91	RES-CHIP	10K	5%	1/10W
R611		1-216-089-91	RES-CHIP	47K	5%	1/10W
R612		1-216-045-00	RES-CHIP	680	5%	1/10W
R614		1-216-041-00	RES-CHIP	470	5%	1/10W
R615		1-216-369-00	METAL OXIDE (KV-XA29M67/XA29M97)	1	5%	2W
R615		1-216-366-00	METAL OXIDE (KV-XA34M67/XA34M97)	0.56	5%	2W
R616		1-260-302-51	CARBON	6.8	5%	1/2W
R617		1-249-433-11	CARBON	22	5%	1/4W
R619		1-260-128-91	CARBON	270K	5%	1/2W
R620		1-129-720-00	FILM	0.033UF	5.00%	630V
R621		1-215-864-00	METAL OXIDE	150	5%	1W
R623		1-216-095-00	RES-CHIP	82K	5%	1/10W
R624		1-216-089-91	RES-CHIP	47K	5%	1/10W
R626		1-216-049-11	RES-CHIP	1K	5%	1/10W
R627		1-240-251-11	CMT-MELF	6.8	5%	10W
R629		1-247-747-11	CARBON	470	5%	1/2W
R630		1-249-429-11	CARBON	10K	5%	1/4W
R631		1-216-089-91	RES-CHIP	47K	5%	1/10W
R632		1-220-886-11	FUSIBLE	0.1	10%	1W
R634	⚠	1-218-265-11	METAL	8.2M	5%	1W
R635		1-216-492-11	METAL OXIDE	82K	5%	3W
R636		1-215-924-00	METAL OXIDE	15K	5%	3W
R637		1-216-492-11	METAL OXIDE	82K	5%	3W
R639		1-216-361-21	METAL OXIDE	0.22	5%	2W
R640		1-247-899-11	CARBON	680	5%	1/4W
R641		1-216-361-21	METAL OXIDE	0.22	5%	2W
R642		1-249-383-11	CARBON	1.5K	5%	1/4W
R643		1-249-387-11	CARBON	3.3K	5%	1/4W
R644		1-249-383-11	CARBON	1.5K	5%	1/4W
R646		1-215-924-00	METAL OXIDE	15K	5%	3W
R647		1-247-843-11	CARBON	3.3	5%	1/4W
R648		1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R649		1-249-381-11	CARBON	1K	5%	1/4W
R650		1-215-882-00	METAL OXIDE	22	5%	2W
R652		1-215-900-11	METAL OXIDE (KV-XA29M67/XA29M97)	22K	5%	2W
R652		1-215-925-11	METAL OXIDE (KV-XA34M67/XA34M97)	22K	5%	3W
R653		1-215-873-00	METAL OXIDE	4.7K	5%	1W
R654		1-216-369-00	METAL OXIDE	1	5%	2W
R656		1-249-381-11	CARBON	1K	5%	1/4W
R657		1-260-127-11	CARBON	220K	5%	1/2W
R659		1-216-049-11	RES-CHIP	1K	5%	1/10W
R660		1-216-073-91	RES-CHIP	10K	5%	1/10W
R661		1-215-873-00	METAL OXIDE	4.7K	5%	1W
R682		1-219-134-11	FUSIBLE	0.1	10%	1/4W
R909		1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R910		1-216-065-91	RES-CHIP	4.7K	5%	1/10W

REF NO.		PART NO.	DESCRIPTION	REMARK
			<RELAY>	
RY600	⚠	1-755-214-11	RELAY, AC POWER	
RY601	⚠	1-755-214-11	RELAY, AC POWER	
			<SWITCH>	
S501		1-572-707-11	SWITCH, LEVER	
S502		1-572-707-11	SWITCH, LEVER	
			<TRANSFORMER>	
T501		1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE	
T503	⚠	1-453-305-11	TRANSFORMER ASSY FLYBACK (NX-4009//C6P4) (KV-XA29M67/XA29M97)	
T503	⚠	1-453-298-11	TRANSFORMER ASSY FLY BACK (NX-4009//M3P) (KV-XA34M67/XA34M97)	
T504		1-431-475-11	TRANSFORMER, HORIZONTAL LINEAR	
T505		1-426-981-11	TRANSFORMER, FERRITE (PMT)	
T601	⚠	1-424-505-11	TRANSFORMER, LINE FILTER	
T603	⚠	1-437-464-11	TRANSFORMER, CONVERTER	
T604	⚠	1-431-852-11	TRANSFORMER, CONVERTER (SRT)	
			<THERMISTOR>	
TH600		1-803-586-11	THERMISTOR, NTC	
			<THERMISTOR>	
THP600		1-803-540-11	THERMISTOR	
			<TUNER>	
TU101	⚠	8-598-452-20	TUNER, FSS BTF-WG442	
			<VARISTOR>	
VDR600		1-803-830-11	VARISTOR (ERZV14D621) (KV-XA34M67/XA34M97 ONLY)	
			<CRYSTAL>	
X001		1-781-174-21	VIBRATOR, CERAMIC	
X301		1-781-134-21	VIBRATOR, CRYSTAL	
X302		1-781-132-21	VIBRATOR, CRYSTAL	

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* A-1136-225-A B BOARD COMPLETE (KV-XA29M67/XA29M97)
* A-1136-224-A B BOARD COMPLETE (KV-XA34M67/XA34M97)
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4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C1305	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1307	1-164-346-11	CERAMIC CHIP	1UF		16V
C1310	1-104-660-91	ELECT	47UF	20.00%	16V
C1312	1-104-660-91	ELECT	47UF	20.00%	16V
C1330	1-125-797-91	ELECT	10UF	20.00%	50V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C1333	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1395	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1401	1-104-661-91	ELECT	330UF	20.00%	16V
C1402	1-104-664-11	ELECT	47UF	20.00%	25V
C1403	1-104-664-11	ELECT	47UF	20.00%	25V
C1404	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1405	1-104-664-11	ELECT	47UF	20.00%	25V
C1406	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1407	1-126-933-11	ELECT	100UF	20.00%	16V
C1408	1-125-797-91	ELECT	10UF	20.00%	50V
C1410	1-104-664-11	ELECT	47UF	20.00%	25V
C1411	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1412	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1413	1-126-935-11	ELECT	470UF	20.00%	16V
C1414	1-164-346-11	CERAMIC CHIP	1UF		16V
C1415	1-104-664-11	ELECT	47UF	20.00%	25V
C1416	1-164-346-11	CERAMIC CHIP	1UF		16V
C1417	1-126-933-11	ELECT	100UF	20.00%	16V
C1418	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1420	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1421	1-164-346-11	CERAMIC CHIP	1UF		16V
C1422	1-164-346-11	CERAMIC CHIP	1UF		16V
C1423	1-164-346-11	CERAMIC CHIP	1UF		16V
C1425	1-164-346-11	CERAMIC CHIP	1UF		16V
C1426	1-164-346-11	CERAMIC CHIP	1UF		16V
C1428	1-104-665-11	ELECT	100UF	20.00%	25V
C1429	1-104-663-11	ELECT	33UF	20.00%	25V
C1430	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1431	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1432	1-126-933-11	ELECT	100UF	20.00%	16V
C1433	1-104-660-91	ELECT	47UF	20.00%	16V
C1434	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1435	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1436	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1438	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1439	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1440	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1441	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1442	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1443	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1444	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1445	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1446	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1447	1-125-797-91	ELECT	10UF	20.00%	50V
C1448	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1449	1-126-933-11	ELECT	100UF	20.00%	16V
C1450	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1451	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1452	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1453	1-126-933-11	ELECT	100UF	20.00%	16V
C1454	1-126-967-11	ELECT	47UF	20.00%	50V
C1455	1-126-967-11	ELECT	47UF	20.00%	50V
C1456	1-126-933-11	ELECT	100UF	20.00%	16V
C1457	1-164-346-11	CERAMIC CHIP	1UF		16V
C1458	1-126-933-11	ELECT	100UF	20.00%	16V
C1459	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1460	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1461	1-164-346-11	CERAMIC CHIP	1UF		16V
C1462	1-164-346-11	CERAMIC CHIP	1UF		16V
C1464	1-126-933-11	ELECT	100UF	20.00%	16V
C3201	1-125-797-91	ELECT	10UF	20.00%	50V
C3203	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C3208	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3209	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3210	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3211	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3213	1-104-665-11	ELECT	100UF	20.00%	25V
C3214	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3215	1-125-797-91	ELECT	10UF	20.00%	50V
C3216	1-125-797-91	ELECT	10UF	20.00%	50V
C3217	1-104-665-11	ELECT	100UF	20.00%	25V
C3218	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3219	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3220	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3221	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3222	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3223	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3224	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3225	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3226	1-125-797-91	ELECT	10UF	20.00%	50V
C3227	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3228	1-107-698-11	ELECT	10UF	20.00%	25V
C3229	1-107-698-11	ELECT	10UF	20.00%	25V
C3230	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3231	1-126-960-11	ELECT	1UF	20.00%	50V
C3232	1-126-960-11	ELECT	1UF	20.00%	50V
C3233	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3234	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3235	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3236	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3237	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3240	1-125-805-91	ELECT	4.7UF	20.00%	50V
C3241	1-125-805-91	ELECT	4.7UF	20.00%	50V
C3242	1-126-965-91	ELECT	22UF	20.00%	50V
C3249	1-216-295-91	SHORT	0		
C3254	1-216-295-91	SHORT	0		
C3259	1-104-660-91	ELECT	47UF	20.00%	16V
C3260	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3262	1-104-660-91	ELECT	47UF	20.00%	16V
C3264	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3265	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3266	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C3267	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3268	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3269	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3270	1-125-805-91	ELECT	4.7UF	20.00%	50V
C3271	1-125-805-91	ELECT	4.7UF	20.00%	50V
C3272	1-104-665-11	ELECT	100UF	20.00%	25V
C3273	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C3274	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3275	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3276	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3277	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3280	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3281	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C6200	1-216-295-91	SHORT	0		
C6201	1-125-797-91	ELECT	10UF	20.00%	50V
C6202	1-126-953-11	ELECT	2200UF	20.00%	35V
C6203	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6204	1-128-550-11	ELECT	2200UF	20.00%	50V
C6205	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6206	1-128-550-11	ELECT	2200UF	20.00%	50V
C6207	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6208	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V

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REF NO.	PART NO.	DESCRIPTION			REMARK
C6209	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6210	1-126-924-11	ELECT	330UF	20.00%	10V
C6211	1-126-924-11	ELECT	330UF	20.00%	10V
C6212	1-104-664-11	ELECT	47UF	20.00%	25V
C6213	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C6215	1-126-933-11	ELECT	100UF	20.00%	16V
C6216	1-126-960-11	ELECT	1UF	20.00%	50V
C6217	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C6218	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6219	1-125-800-91	ELECT	2.2UF	20.00%	63V
C6220	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6221	1-125-798-91	ELECT	0.47UF	20.00%	63V
C6222	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6223	1-126-960-11	ELECT	1UF	20.00%	50V
C6225	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6226	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6227	1-128-550-11	ELECT	2200UF	20.00%	50V
C6228	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6229	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6230	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6231	1-128-550-11	ELECT	2200UF	20.00%	50V
C6232	1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C6233	1-163-007-11	CERAMIC CHIP	680PF	10.00%	50V
C6234	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C6235	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C6236	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6237	1-136-177-00	FILM	1UF	5.00%	50V
C6238	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C6239	1-127-682-51	ELECT MELF	2200UF	20%	25V
C6240	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6241	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C6244	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C6245	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C6249	1-216-295-91	SHORT	0		
C6251	1-126-965-91	ELECT	22UF	20.00%	50V
C6252	1-126-965-91	ELECT	22UF	20.00%	50V
C6253	1-125-798-91	ELECT	0.47UF	20.00%	63V
		<CONNECTOR>			
CN1300 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN1400 *	1-564-512-11	PLUG, CONNECTOR 9P			
CN1401 *	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN1403	1-564-506-11	PLUG, CONNECTOR 3P			
CN1404 *	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P			
CN1405 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P			
CN1406 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P			
CN1407 *	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P			
CN1408	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P			
CN1409	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P			
CN6200	1-564-507-41	PLUG, CONNECTOR 4P			
CN6202	1-564-507-11	PLUG, CONNECTOR 4P			
CN6204	1-564-509-11	PLUG, CONNECTOR 6P			
CN6205	1-564-507-31	PLUG, CONNECTOR 4P			
CN6206 *	1-564-508-11	PLUG, CONNECTOR 5P			
		<DIODE>			
D1401	8-719-158-35	RD9.1S-B			
D1402	8-719-158-35	RD9.1S-B			
D1403	8-719-158-35	RD9.1S-B			
D1404	8-719-158-35	RD9.1S-B			
D1405	8-719-158-35	RD9.1S-B			
D1406	8-719-158-35	RD9.1S-B			
D1407	8-719-158-35	RD9.1S-B			
D1408	8-719-158-35	RD9.1S-B			
D1409	8-719-158-35	RD9.1S-B			
D1410	8-719-158-35	RD9.1S-B			
D1411	8-719-158-35	RD9.1S-B			
D1412	8-719-158-35	RD9.1S-B			
D1415	8-719-158-35	RD9.1S-B			
D1416	8-719-158-35	RD9.1S-B			
D1418	8-719-158-35	RD9.1S-B			
D6200	8-719-109-86	RD5.1ES-B3			
D6205	8-719-988-61	1SS355TE-17			
D6210	8-719-820-41	1SS302			
D6211	8-719-988-61	1SS355TE-17			
D6212	8-719-988-61	1SS355TE-17			
		<FERRITE BEAD>			
FB6201	1-410-397-21	FERRITE	1.1UH		
FB6202	1-410-397-21	FERRITE	1.1UH		
		<IC>			
IC1401	8-752-068-46	CXA1855S			
IC1402	8-759-100-96	UPC4558G2			
IC1403	8-759-231-53	TA7805S			
IC1404	8-759-701-59	NJM78M09FA			
IC3200	8-759-100-96	UPC4558G2			
IC3201	8-759-689-71	NJM2188M-TE2			
IC3202	8-759-100-96	UPC4558G2			
IC3203	8-759-711-10	NJU4066BM			
IC3205	8-752-058-68	CXA1315M			
IC3206	8-759-690-57	BH3868BFS-E2			
IC6200	8-759-168-24	TA8200AH			
IC6201	8-759-553-45	TDA7481			
		<JACK>			
J1401	1-784-646-11	TERMINAL, S			
J1402	1-778-387-11	JACK BLOCK, PIN 12P			
		<CHIP CONDUCTOR>			
JR1303	1-216-295-91	SHORT	0		
JR1401	1-216-295-91	SHORT	0		
JR1405	1-216-295-91	SHORT	0		
JR1406	1-216-295-91	SHORT	0		
JR1407	1-216-295-91	SHORT	0		
JR1409	1-216-295-91	SHORT	0		
JR1410	1-216-295-91	SHORT	0		
JR1411	1-216-295-91	SHORT	0		
JR3202	1-216-295-91	SHORT	0		
JR3204	1-216-295-91	SHORT	0		
JR3209	1-216-295-91	SHORT	0		
JR3210	1-216-295-91	SHORT	0		
JR3211	1-216-295-91	SHORT	0		
JR3212	1-216-295-91	SHORT	0		
JR6200	1-216-295-91	SHORT	0		
JR6201	1-216-295-91	SHORT	0		
JR6202	1-216-295-91	SHORT	0		
JR6203	1-216-295-91	SHORT	0		
JR6204	1-216-295-91	SHORT	0		
JR6206	1-216-295-91	SHORT	0		

REF NO.	PART NO.	DESCRIPTION			REMARK
		<COIL>			
L1313	1-414-187-11	INDUCTOR	47UH		
L1314	1-414-856-11	INDUCTOR	10UH		
L1315	1-414-856-11	INDUCTOR	10UH		
L1317	1-414-856-11	INDUCTOR	10UH		
L1400	1-414-856-11	INDUCTOR	10UH		
L1402	1-412-537-31	INDUCTOR	100UH		
L1403	1-414-856-11	INDUCTOR	10UH		
L1404	1-412-537-31	INDUCTOR	100UH		
L1405	1-414-856-11	INDUCTOR	10UH		
L1406	1-414-856-11	INDUCTOR	10UH		
L1407	1-414-856-11	INDUCTOR	10UH		
L3202	1-414-856-11	INDUCTOR	10UH		
L6202	1-416-857-11	INDUCTOR	65UH		
		<IC LINK>			
PS6200	1-532-686-21	LINK, IC 2.7A/150V			
PS6201	1-532-686-21	LINK, IC 2.7A/150V			
		<TRANSISTOR>			
Q1316	8-729-216-22	2SA1162-G			
Q1317	8-729-230-49	2SC2712-YG			
Q1318	8-729-230-49	2SC2712-YG			
Q1323	8-729-230-49	2SC2712-YG			
Q1324	8-729-230-49	2SC2712-YG			
Q1365	8-729-230-49	2SC2712-YG			
Q1372	8-729-230-49	2SC2712-YG			
Q1401	8-729-230-49	2SC2712-YG			
Q1402	8-729-216-22	2SA1162-G			
Q1403	8-729-230-49	2SC2712-YG			
Q1404	8-729-230-49	2SC2712-YG			
Q1408	8-729-230-49	2SC2712-YG			
Q1409	8-729-230-49	2SC2712-YG			
Q1410	8-729-230-49	2SC2712-YG			
Q6200	8-729-230-49	2SC2712-YG			
Q6201	8-729-421-19	UN2213			
Q6202	8-729-230-49	2SC2712-YG			
Q6203	8-729-421-19	UN2213			
Q6204	8-729-421-19	UN2213			
Q6205	8-729-230-49	2SC2712-YG			
Q6206	8-729-230-49	2SC2712-YG			
Q6207	8-729-224-62	2SK246-GR			
Q6208	8-729-421-19	UN2213			
		<RESISTOR>			
R1301	1-216-041-00	RES-CHIP	470	5%	1/10W
R1318	1-216-033-00	RES-CHIP	220	5%	1/10W
R1320	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1343	1-216-049-11	RES-CHIP	1K	5%	1/10W
		(KV-XA29M67/XA29M97 ONLY)			
R1344	1-216-025-11	RES-CHIP	100	5%	1/10W
R1345	1-216-041-00	RES-CHIP	470	5%	1/10W
R1346	1-216-041-00	RES-CHIP	470	5%	1/10W
R1347	1-216-025-11	RES-CHIP	100	5%	1/10W
R1350	1-216-085-91	RES-CHIP	33K	5%	1/10W
R1359	1-216-025-11	RES-CHIP	100	5%	1/10W
R1360	1-216-041-00	RES-CHIP	470	5%	1/10W
R1361	1-216-041-00	RES-CHIP	470	5%	1/10W
R1362	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R1363	1-216-033-00	RES-CHIP	220	5%	1/10W
R1364	1-216-089-91	RES-CHIP	47K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
R1365	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1366	1-216-295-91	SHORT	0		
R1368	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1369	1-216-025-11	RES-CHIP	100	5%	1/10W
R1370	1-216-041-00	RES-CHIP	470	5%	1/10W
R1371	1-216-039-00	RES-CHIP	390	5%	1/10W
R1372	1-216-041-00	RES-CHIP	470	5%	1/10W
R1397	1-216-045-00	RES-CHIP	680	5%	1/10W
R1400	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1401	1-216-031-00	RES-CHIP	180	5%	1/10W
R1402	1-216-033-00	RES-CHIP	220	5%	1/10W
R1403	1-216-033-00	RES-CHIP	220	5%	1/10W
R1404	1-216-295-91	SHORT	0		
R1406	1-216-013-00	RES-CHIP	33	5%	1/10W
R1407	1-216-033-00	RES-CHIP	220	5%	1/10W
R1408	1-216-031-00	RES-CHIP	180	5%	1/10W
R1409	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1410	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1411	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1412	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1413	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1414	1-216-025-11	RES-CHIP	100	5%	1/10W
R1417	1-216-025-11	RES-CHIP	100	5%	1/10W
R1418	1-216-025-11	RES-CHIP	100	5%	1/10W
R1419	1-216-025-11	RES-CHIP	100	5%	1/10W
R1420	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1421	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1423	1-216-025-11	RES-CHIP	100	5%	1/10W
R1424	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1425	1-216-047-91	RES-CHIP	820	5%	1/10W
R1426	1-216-025-11	RES-CHIP	100	5%	1/10W
R1427	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R1428	1-216-025-11	RES-CHIP	100	5%	1/10W
R1429	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1430	1-216-025-11	RES-CHIP	100	5%	1/10W
R1431	1-216-025-11	RES-CHIP	100	5%	1/10W
R1432	1-216-041-00	RES-CHIP	470	5%	1/10W
R1433	1-216-025-11	RES-CHIP	100	5%	1/10W
R1434	1-216-025-11	RES-CHIP	100	5%	1/10W
R1435	1-216-022-00	RES-CHIP	75	5%	1/10W
R1436	1-216-025-11	RES-CHIP	100	5%	1/10W
R1437	1-216-022-00	RES-CHIP	75	5%	1/10W
R1438	1-216-025-11	RES-CHIP	100	5%	1/10W
R1439	1-216-295-91	SHORT	0		
R1441	1-216-025-11	RES-CHIP	100	5%	1/10W
R1442	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1443	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1444	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1445	1-216-025-11	RES-CHIP	100	5%	1/10W
R1446	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1447	1-216-025-11	RES-CHIP	100	5%	1/10W
R1448	1-216-043-91	RES-CHIP	560	5%	1/10W
R1449	1-249-393-11	CARBON	10K	5%	1/4W
R1450	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1451	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1452	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1453	1-216-025-11	RES-CHIP	100	5%	1/10W
R1454	1-216-091-00	RES-CHIP	56K	5%	1/10W
R1455	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1456	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1457	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1458	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1459	1-216-025-11	RES-CHIP	100	5%	1/10W

B

REF NO.	PART NO.	DESCRIPTION		REMARK	
R1460	1-216-033-00	RES-CHIP	220	5%	1/10W
R1461	1-216-025-11	RES-CHIP	100	5%	1/10W
R1462	1-216-025-11	RES-CHIP	100	5%	1/10W
R1463	1-249-393-11	CARBON	10K	5%	1/4W
R1464	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1465	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1466	1-216-033-00	RES-CHIP	220	5%	1/10W
R1467	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1468	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1469	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1470	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1471	1-216-022-00	RES-CHIP	75	5%	1/10W
R1472	1-216-033-00	RES-CHIP	220	5%	1/10W
R1473	1-216-033-00	RES-CHIP	220	5%	1/10W
R1474	1-216-295-91	SHORT	0		
R1475	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1476	1-216-091-00	RES-CHIP	56K	5%	1/10W
R1477	1-216-047-91	RES-CHIP	820	5%	1/10W
R1478	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R1479	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1480	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1481	1-216-022-00	RES-CHIP	75	5%	1/10W
R1482	1-216-025-11	RES-CHIP	100	5%	1/10W
R1483	1-216-025-11	RES-CHIP	100	5%	1/10W
R1484	1-216-025-11	RES-CHIP	100	5%	1/10W
R1485	1-216-025-11	RES-CHIP	100	5%	1/10W
R1486	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1487	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1488	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1489	1-216-022-00	RES-CHIP	75	5%	1/10W
R1490	1-216-025-11	RES-CHIP	100	5%	1/10W
R1491	1-216-025-11	RES-CHIP	100	5%	1/10W
R1492	1-216-021-00	RES-CHIP	68	5%	1/10W
R1493	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1494	1-216-031-00	RES-CHIP	180	5%	1/10W
R1495	1-216-033-00	RES-CHIP	220	5%	1/10W
R1496	1-216-041-00	RES-CHIP	470	5%	1/10W
R1497	1-216-041-00	RES-CHIP	470	5%	1/10W
R1498	1-216-025-11	RES-CHIP	100	5%	1/10W
R1499	1-216-025-11	RES-CHIP	100	5%	1/10W
R1500	1-216-025-11	RES-CHIP	100	5%	1/10W
R1501	1-216-045-00	RES-CHIP	680	5%	1/10W
R1503	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1504	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1505	1-216-022-00	RES-CHIP	75	5%	1/10W
R1506	1-216-033-00	RES-CHIP	220	5%	1/10W
R2641	1-215-890-11	METAL OXIDE (KV-XA29M67/XA29M97 ONLY)	470	5%	2W
R3208	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R3209	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3210	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R3211	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3212	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R3213	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R3214	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R3215	1-216-095-00	RES-CHIP	82K	5%	1/10W
R3216	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R3217	1-216-085-91	RES-CHIP	33K	5%	1/10W
R3218	1-216-091-00	RES-CHIP	56K	5%	1/10W
R3219	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3224	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3225	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R3226	1-216-095-00	RES-CHIP	82K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R3227	1-216-091-00	RES-CHIP	56K	5%	1/10W
R3228	1-216-085-91	RES-CHIP	33K	5%	1/10W
R3229	1-216-025-11	RES-CHIP	100	5%	1/10W
R3230	1-216-025-11	RES-CHIP	100	5%	1/10W
R3231	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3232	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3238	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3239	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3240	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3241	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3242	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3243	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3244	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3247	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3248	1-216-025-11	RES-CHIP	100	5%	1/10W
R3249	1-216-025-11	RES-CHIP	100	5%	1/10W
R3262	1-216-095-00	RES-CHIP	82K	5%	1/10W
R3263	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3267	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3268	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3269	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3271	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3273	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3274	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3275	1-216-295-91	SHORT	0		
R3276	1-216-295-91	SHORT	0		
R6200	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6201	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6202	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6203	1-216-295-91	SHORT	0		
R6205	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6207	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6209	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6213	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6214	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6219	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6220	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
R6235	1-216-029-00	RES-CHIP	150	5%	1/10W
R6236	1-216-075-00	RES-CHIP	12K	5%	1/10W
R6237	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6239	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6240	1-249-393-11	CARBON	10K	5%	1/4W
R6241	1-215-890-11	METAL OXIDE (KV-XA34M67/XA34M97 ONLY)	470	5%	2W
R6242	1-215-890-11	METAL OXIDE	470	5%	2W
R6243	1-249-392-11	CARBON	8.2	5%	1/4W
R6244	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6245	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6246	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6248	1-216-041-00	RES-CHIP	470	5%	1/10W
R6249	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6250	1-216-295-91	SHORT	0		
R6251	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6252	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6253	1-216-041-00	RES-CHIP	470	5%	1/10W
R6254	1-216-017-91	RES-CHIP	47	5%	1/10W
R6255	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6256	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6257	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R6258	1-216-017-91	RES-CHIP	47	5%	1/10W
R6259	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6260	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6262	1-216-059-00	RES-CHIP	2.7K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION			REMARK
R6263	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R6266	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6268	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
		<TUNER>			
TU1401	8-598-508-10	TUNER, FSS BTF-LG436			
**********					
*	A-1332-190-A	C6 BOARD MOUNTED (KV-XA29M67/XA29M97)			
*	A-1332-201-A	C6 BOARD MOUNTED (KV-XA34M67/XA34M97)			
		**********			
	4-352-844-01	PIN, LEAD, COATING (KV-XA29M67/XA29M97 ONLY)			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C701	1-115-350-51	CERAMIC	0.0047UF		2KV
C702	1-102-074-00	CERAMIC (KV-XA29M67/XA29M97)	0.001UF	10.00%	50V
C702	1-102-114-00	CERAMIC (KV-XA34M67/XA34M97)	470PF	10.00%	50V
C703	1-106-375-12	MYLAR (KV-XA34M67/XA34M97 ONLY)	0.022UF	10.00%	250V
C708	1-102-114-00	CERAMIC	470PF	10.00%	50V
C709	1-102-114-00	CERAMIC	470PF	10.00%	50V
C710	1-102-114-00	CERAMIC	470PF	10.00%	50V
C712	1-102-115-00	CERAMIC	560PF	10.00%	50V
C713	1-102-112-00	CERAMIC	330PF	10.00%	50V
C714	1-102-112-00	CERAMIC	330PF	10.00%	50V
C716	1-126-933-11	ELECT	100UF	20.00%	16V
C717	1-107-651-11	ELECT	4.7UF	20.00%	250V
C718	1-102-106-00	CERAMIC	100PF	10.00%	50V
C1800	1-125-797-91	ELECT	10UF	20.00%	50V
C1803	1-125-797-91	ELECT	10UF	20.00%	50V
C1804	1-125-797-91	ELECT	10UF	20.00%	50V
C1809	1-126-942-61	ELECT	1000UF	20.00%	25V
C1810	1-102-106-00	CERAMIC	100PF	10.00%	50V
		<CONNECTOR>			
CN700	1-695-915-11	TAB (CONTACT)			
CN702	1-695-915-11	TAB (CONTACT)			
CN703	1-564-509-11	PLUG, CONNECTOR 6P			
CN704	1-695-915-11	TAB (CONTACT)			
CN712	1-564-507-11	PLUG, CONNECTOR 4P			
CN1801	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN1802	1-564-506-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D701	8-719-911-19	1SS119-25			
D702	8-719-911-19	1SS119-25			
D703	8-719-911-19	1SS119-25			
D704	8-719-911-19	1SS119-25			
D705	8-719-911-19	1SS119-25			
D706	8-719-911-19	1SS119-25			
D707	8-719-911-19	1SS119-25			
D708	8-719-911-19	1SS119-25			
D709	8-719-911-19	1SS119-25			
D710	8-719-911-19	1SS119-25			
D711	8-719-911-19	1SS119-25			
D712	8-719-911-19	1SS119-25			
D716	8-719-911-19	1SS119-25			
D717	8-719-070-16	NNCD9.1A-T1			
D1803	8-719-911-19	1SS119-25			
D1804	8-719-911-19	1SS119-25			
D1808	8-719-908-03	GP08D			
		<IC>			
IC1800	8-759-822-38	LA6510			
		<JACK>			
J701	⚠ 1-540-071-22	SOCKET, CRT			
		<COIL>			
L701	1-410-667-31	INDUCTOR	22UH		
L703	1-414-186-31	INDUCTOR	33UH		
L705	1-414-186-31	INDUCTOR	33UH		
L707	1-414-187-11	INDUCTOR	47UH		
		<TRANSISTOR>			
Q701	8-729-326-11	2SC2611			
Q702	8-729-326-11	2SC2611			
Q703	8-729-326-11	2SC2611			
Q704	8-729-326-11	2SC2611			
Q705	8-729-326-11	2SC2611			
Q706	8-729-326-11	2SC2611			
Q707	8-729-200-17	2SA1091-O			
Q708	8-729-200-17	2SA1091-O			
Q709	8-729-200-17	2SA1091-O			
Q710	8-729-119-78	2SC2785-HFE			
Q711	8-729-119-78	2SC2785-HFE			
Q712	8-729-119-78	2SC2785-HFE			
Q714	8-729-255-12	2SC2551-O			
Q1800	8-729-119-76	2SA1175-HFE			
Q1802	8-729-119-78	2SC2785-HFE			
		<RESISTOR>			
R701	1-219-752-11	CARBON	100K	5%	1/2W
R705	1-216-392-11	METAL OXIDE	1.8	5%	3W
R710	1-215-923-00	METAL OXIDE	10K	5%	3W
R711	1-260-328-11	CARBON	1K	5%	1/2W
R712	1-215-923-00	METAL OXIDE	10K	5%	3W
R713	1-260-330-11	CARBON	1.5K	5%	1/2W
R714	1-215-923-00	METAL OXIDE	10K	5%	3W
R715	1-260-330-11	CARBON	1.5K	5%	1/2W
R716	1-249-405-11	CARBON	100	5%	1/4W
R717	1-249-405-11	CARBON	100	5%	1/4W
R718	1-249-405-11	CARBON	100	5%	1/4W
R719	1-215-469-00	METAL (KV-XA29M67/XA29M97)	100K	1%	1/4W
R719	1-215-455-00	METAL (KV-XA34M67/XA34M97)	27K	1%	1/4W
R720	1-249-923-11	CARBON	1K	5%	1/4W
R722	1-249-923-11	CARBON	1K	5%	1/4W

C6 D2 (KV-XA34M67/XA34M97)

REF NO.	PART NO.	DESCRIPTION			REMARK
R723	1-215-469-00	METAL (KV-XA29M67/XA29M97)	100K	1%	1/4W
R723	1-215-457-00	METAL (KV-XA34M67/XA34M97)	33K	1%	1/4W
R724	1-249-923-11	CARBON	1K	5%	1/4W
R725	1-249-388-11	CARBON	3.9K	5%	1/4W
R726	1-249-388-11	CARBON	3.9K	5%	1/4W
R727	1-249-388-11	CARBON	3.9K	5%	1/4W
R728	1-247-885-00	CARBON	180	5%	1/4W
R729	1-247-885-00	CARBON	180	5%	1/4W
R730	1-247-885-00	CARBON	180	5%	1/4W
R731	1-249-436-11	CARBON (KV-XA29M67/XA29M97)	39	5%	1/4W
R731	1-247-871-91	CARBON (KV-XA34M67/XA34M97)	47	5%	1/4W
R732	1-247-871-91	CARBON (KV-XA29M67/XA29M97)	47	5%	1/4W
R732	1-249-436-11	CARBON (KV-XA34M67/XA34M97)	39	5%	1/4W
R733	1-247-871-91	CARBON (KV-XA29M67/XA29M97)	47	5%	1/4W
R733	1-249-436-11	CARBON (KV-XA34M67/XA34M97)	39	5%	1/4W
R734	1-219-743-11	CARBON	100	5%	1/2W
R738	1-249-441-11	CARBON	100	5%	1/4W
R739	1-249-441-11	CARBON	100	5%	1/4W
R740	1-249-441-11	CARBON	100	5%	1/4W
R747	1-215-926-00	METAL OXIDE	33K	5%	3W
R749	1-215-927-00	METAL OXIDE	47K	5%	3W
R751	1-215-926-00	METAL OXIDE	33K	5%	3W
R753	1-249-393-11	CARBON	10K	5%	1/4W
R755	1-249-391-11	CARBON	6.8K	5%	1/4W
R756	1-249-391-11	CARBON	6.8K	5%	1/4W
R757	1-249-391-11	CARBON	6.8K	5%	1/4W
R758	1-249-383-11	CARBON	1.5K	5%	1/4W
R759	1-249-383-11	CARBON	1.5K	5%	1/4W
R760	1-249-419-11	CARBON	1.5K	5%	1/4W
R1800	1-249-381-11	CARBON	1K	5%	1/4W
R1801	1-249-390-11	CARBON	5.6K	5%	1/4W
R1802	1-249-382-11	CARBON	1.2	5%	1/4W
R1803	1-249-382-11	CARBON	1.2	5%	1/4W
R1805	1-249-393-11	CARBON	10K	5%	1/4W
R1806	1-249-389-11	CARBON	4.7K	5%	1/4W
R1808	1-249-389-11	CARBON	4.7K	5%	1/4W
R1809	1-249-399-11	CARBON	33K	5%	1/4W
R1810	1-249-399-11	CARBON	33K	5%	1/4W
R1811	1-247-791-91	CARBON	22K	5%	1/4W
R1812	1-249-399-11	CARBON	33K	5%	1/4W
R1821	1-247-791-91	CARBON	22K	5%	1/4W
R1822	1-249-399-11	CARBON	33K	5%	1/4W
R1823	1-249-390-11	CARBON	5.6K	5%	1/4W
R1824	1-249-399-11	CARBON	33K	5%	1/4W
R1825	1-249-387-11	CARBON	3.3K	5%	1/4W
		<VARIABLE RESISTOR>			
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M			
RV1801	1-238-019-11	RES, ADJ, CARBON 47K			

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* A-1333-125-A D2 BOARD MOUNTED (KV-XA34M67/XA34M97 ONLY)
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REF NO.	PART NO.	DESCRIPTION			
		<CAPACITOR>			
C2801	1-130-479-00	MYLAR	0.0047UF	5.00%	50V
C2803	1-136-357-11	MYLAR	680PF	5.00%	50V
C2805	1-104-664-11	ELECT	47UF	20.00%	25V
C2806	1-136-559-11	MYLAR	0.0047UF	10.00%	400V
C2809	1-125-797-91	ELECT	10UF	20.00%	50V
C2810	1-102-228-00	CERAMIC	470PF	10.00%	500V
C2811	1-107-938-11	ELECT	0.47UF	20.00%	160V
C2813	1-107-636-11	ELECT	10UF	20.00%	160V
C2814	1-125-797-91	ELECT	10UF	20.00%	50V
C2817	1-102-244-00	CERAMIC	220PF	10.00%	500V
C2818	1-129-928-00	FILM	0.0027UF	5.00%	630V
C2819	1-104-664-11	ELECT	47UF	20.00%	25V
C2820	1-107-714-11	ELECT	10UF	20.00%	16V
C2821	1-130-469-00	MYLAR	680PF	5.00%	50V
C2822	1-106-375-12	MYLAR	0.022UF	10.00%	250V
C2824	1-104-664-11	ELECT	47UF	20.00%	25V
C2825	1-130-338-91	FILM	0.01UF	5.00%	630V
C2826	1-137-194-81	FILM	0.47UF	5.00%	50V
C2828	1-107-714-11	ELECT	10UF	20.00%	16V
C2829	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C2830	1-130-480-00	MYLAR	0.0056UF	5.00%	50V
C2832	1-126-960-11	ELECT	1UF	20.00%	50V
C2833	1-137-366-11	MYLAR	0.0022UF	5.00%	50V
C2834	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C2835	1-216-295-91	SHORT	0		
C2837	1-102-129-00	CERAMIC	0.01UF	10.00%	50V
C2840	1-137-466-11	MYLAR	0.082UF	5.00%	100V
C2841	1-136-177-00	FILM	1UF	5.00%	50V
C2842	1-130-477-00	MYLAR	0.0033UF	5.00%	50V
C2843	1-107-714-11	ELECT	10UF	20.00%	16V
C2900	1-130-480-00	MYLAR	0.0056UF	5.00%	50V
C2901	1-125-797-91	ELECT	10UF	20.00%	50V
		<CONNECTOR>			
CN2821	1-564-506-11	PLUG, CONNECTOR 3P			
CN2822 *	1-564-510-11	PLUG, CONNECTOR 7P			
CN2823	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D2801	8-719-404-50	MA111-TX			
D2803	8-719-063-73	DIODE D1NL20U-TR			
D2804	8-719-063-73	DIODE D1NL20U-TR			
D2806	8-719-302-43	EL1Z			
D2813	8-719-404-50	MA111-TX			
D2814	8-719-210-21	11EQS04			
D2815	8-719-911-19	1SS119-25			
D2816	8-719-911-19	1SS119-25			
		<IC>			
IC2801	8-759-700-07	NJM2903M			
IC2803	8-759-701-59	NJM78M09FA			
IC2805	8-759-510-71	BA10358F-E2			
IC2806	8-759-700-07	NJM2903M			
		<CHIP CONDUCTOR>			
JR2006	1-216-295-91	SHORT	0		
JR2803	1-216-295-91	SHORT	0		
JR2804	1-216-295-91	SHORT	0		
JR2805	1-216-295-91	SHORT	0		

D2 (KV-XA34M67/XA34M97)

REF NO.	PART NO.	DESCRIPTION		REMARK
		<COIL>		
L2801	1-406-677-11	INDUCTOR	10MH	
L2802	1-459-111-00	INDUCTOR	10MH	
L2803	1-414-502-21	INDUCTOR	33MH	
L2806	1-406-678-11	INDUCTOR	15MH	
		<TRANSISTOR>		
Q2802	8-729-216-22	2SA1162-G		
Q2805	8-729-216-22	2SA1162-G		
Q2806	8-729-230-49	2SC2712-YG		
Q2807	8-729-043-95	2SC3840(3)		
Q2813	8-729-230-49	2SC2712-YG		
Q2821	8-729-230-49	2SC2712-YG		
Q2822	8-729-216-22	2SA1162-G		
Q2823	8-729-017-06	2SC4793		
Q2824	8-729-140-97	2SB734-34		
		<RESISTOR>		
R2801	1-216-051-00	RES-CHIP	1.2K 5%	1/10W
R2803	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2804	1-216-041-00	RES-CHIP	470 5%	1/10W
R2806	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2809	1-216-073-91	RES-CHIP	10K 5%	1/10W
R2812	1-216-097-11	RES-CHIP	100K 5%	1/10W
R2813	1-216-089-91	RES-CHIP	47K 5%	1/10W
R2816	1-216-097-11	RES-CHIP	100K 5%	1/10W
R2820	1-216-089-91	RES-CHIP	47K 5%	1/10W
R2821	1-249-412-11	CARBON	390 5%	1/4W
R2824	1-249-393-11	CARBON	10 5%	1/4W
R2825	1-216-037-00	RES-CHIP	330 5%	1/10W
R2827	1-216-041-00	RES-CHIP	470 5%	1/10W
R2830	1-215-899-11	METAL OXIDE	15K 5%	2W
R2831	1-215-873-00	METAL OXIDE	4.7K 5%	1W
R2833	1-216-460-11	METAL OXIDE	3.9K 5%	2W
R2834	1-215-873-00	METAL OXIDE	4.7K 5%	1W
R2837	1-216-063-91	RES-CHIP	3.9K 5%	1/10W
R2838	1-208-806-11	METAL CHIP	10K 0.5%	1/10W
R2839	1-216-081-00	RES-CHIP	22K 5%	1/10W
R2840	1-216-097-11	RES-CHIP	100K 5%	1/10W
R2843	1-216-097-11	RES-CHIP	100K 5%	1/10W
R2844	1-216-097-11	RES-CHIP	100K 5%	1/10W
R2846	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2847	1-216-049-11	RES-CHIP	1K 5%	1/10W
R2857	1-208-802-11	METAL CHIP	6.8K 0.5%	1/10W
R2858	1-216-051-00	RES-CHIP	1.2K 5%	1/10W
R2859	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2860	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2861	1-216-107-00	RES-CHIP	270K 5%	1/10W
R2862	1-216-107-00	RES-CHIP	270K 5%	1/10W
R2866	1-216-073-91	RES-CHIP	10K 5%	1/10W
R2867	1-216-689-11	RES-CHIP	39K 5%	1/10W
R2869	1-216-113-00	RES-CHIP	470K 5%	1/10W
R2871	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2872	1-216-057-00	RES-CHIP	2.2K 5%	1/10W
R2874	1-216-085-91	RES-CHIP	33K 5%	1/10W
R2877	1-216-421-11	METAL OXIDE	12 5%	1W
R2878	1-216-081-00	RES-CHIP	22K 5%	1/10W
R2879	1-216-081-00	RES-CHIP	22K 5%	1/10W
R2880	1-216-073-91	RES-CHIP	10K 5%	1/10W
R2882	1-216-069-00	RES-CHIP	6.8K 5%	1/10W
R2883	1-216-067-00	RES-CHIP	5.6K 5%	1/10W

D3 (KV-XA29M67/XA29M97)

REF NO.	PART NO.	DESCRIPTION		REMARK
R2884	1-216-067-00	RES-CHIP	5.6K 5%	1/10W
R2885	1-216-089-91	RES-CHIP	47K 5%	1/10W
S2801	1-572-707-11	SWITCH, LEVER		
		<TRANSFORMER>		
T2801	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS		
R2886	1-216-063-91	RES-CHIP	3.9K 5%	1/10W
R2887	1-208-782-11	METAL CHIP	1K 0.5%	1/10W
R2888	1-216-049-11	RES-CHIP	1K 5%	1/10W
R2889	1-216-101-00	RES-CHIP	150K 5%	1/10W
R2900	1-216-089-91	RES-CHIP	47K 5%	1/10W
R2901	1-216-089-91	RES-CHIP	47K 5%	1/10W
R2902	1-216-089-91	RES-CHIP	47K 5%	1/10W
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*	A-1333-101-A	D3 BOARD MOUNTED (KV-XA29M67/XA29M97) ONLY)		
		**********		
		<CAPACITOR>		
C2800	1-104-664-11	ELECT	47UF 20.00%	25V
C2801	1-106-220-00	MYLAR	0.1UF 10.00%	100V
C2802	1-136-155-00	FILM	0.015UF 5.00%	50V
C2803	1-129-723-00	FILM	0.056UF 5.00%	630V
C2805	1-104-664-11	ELECT	47UF 20.00%	25V
C2806	1-106-383-00	MYLAR	0.047UF 5.00%	100V
C2807	1-137-194-81	FILM	0.47UF 5.00%	50V
C2808	1-125-797-91	ELECT	10UF 20.00%	50V
C2809	1-137-194-81	FILM	0.47UF 5.00%	50V
C2810	1-106-375-12	MYLAR	0.022UF 10.00%	250V
C2811	1-125-797-91	ELECT	10UF 20.00%	50V
C2812	1-125-797-91	ELECT	10UF 20.00%	50V
C2813	1-129-708-61	FILM	0.0033UF 5.00%	630V
		<CONNECTOR>		
CN2800	* 1-564-510-11	PLUG, CONNECTOR 7P		
CN2802	1-564-506-11	PLUG, CONNECTOR 3P		
CN2803	1-695-915-11	TAB (CONTACT)		
		<DIODE>		
D2800	8-719-302-43	EL1Z		
D2801	8-719-911-19	1SS119-25		
D2802	8-719-911-19	1SS119-25		
D2803	8-719-911-19	1SS119-25		
		<IC>		
IC2800	8-759-701-59	NJM78M09FA		
IC2801	8-759-998-98	LM358D		

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

D3 (KV-XA29M67/XA29M97) DH (KV-XA34M67/XA34M97) F

REF NO.	PART NO.	DESCRIPTION			
		<COIL>			
L2800	1-406-989-71	INDUCTOR	0UH		
L2802	1-406-987-21	INDUCTOR	4.7MH		
L2803	1-406-986-21	INDUCTOR	3.3UH		
L2804	1-406-678-11	INDUCTOR	15MH		
		<TRANSISTOR>			
Q2800	8-729-119-78	2SC2785-HFE			
Q2801	8-729-195-82	2SC2958			
Q2802	8-729-017-06	2SC4793			
Q2803	8-729-216-22	2SA1162-G			
Q2804	8-729-230-49	2SC2712-YG			
		<RESISTOR>			
R2800	1-249-405-11	CARBON	100	5%	1/4W
R2802	1-260-111-11	CARBON	10K	5%	1/2W
R2803	1-260-111-11	CARBON	10K	5%	1/2W
R2804	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R2805	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2806	1-249-385-11	CARBON	2.2K	5%	1/4W
R2807	1-249-420-11	CARBON	1.8K	5%	1/4W
R2808	1-215-857-71	METAL OXIDE	10	5%	1W
R2809	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R2810	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2811	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2812	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2813	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R2814	1-216-121-11	RES-CHIP	1M	5%	1/10W
R2815	1-216-085-91	RES-CHIP	33K	5%	1/10W
R2816	1-216-107-00	RES-CHIP	270K	5%	1/10W
R2817	1-216-107-00	RES-CHIP	270K	5%	1/10W
		<TRANSFORMER>			
T2800	1-413-059-00	TRANSFORMER, FERRITE (DFT)			

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* A-1333-124-A DH BOARD MOUNTED
(KV-XA34M67/XA34M97 ONLY)
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		<CAPACITOR>			
C3801	1-125-797-91	ELECT	10UF	20.00%	50V
C3804	1-102-129-00	CERAMIC	0.01UF	10.00%	50V
C3805	1-125-797-91	ELECT	10UF	20.00%	50V
C3807	1-102-129-00	CERAMIC	0.01UF	10.00%	50V
C3816	1-125-797-91	ELECT	10UF	20.00%	50V
C3819	1-126-960-11	ELECT	1UF	20.00%	50V
C3822	1-136-165-00	FILM	0.1UF	5.00%	50V
		<CONNECTOR>			
CN3802	1-564-507-11	PLUG, CONNECTOR 4P			
CN3803	1-564-506-11	PLUG, CONNECTOR 3P			

REF NO.	PART NO.	DESCRIPTION			
		<DIODE>			
D3805	8-719-911-19	1SS119-25			
		<IC>			
IC3805	8-759-822-38	LA6510			
IC3807	1-418-597-11	SENSOR UNIT, MAGNETIC			
		<TRANSISTOR>			
Q3807	8-729-030-02	DTC144ESA			
Q3808	8-729-030-02	DTC144ESA			
Q3809	8-729-119-78	2SC2785-HFE			
Q3810	8-729-119-76	2SA1175-HFE			
Q3811	8-729-119-78	2SC2785-HFE			
Q3812	8-729-119-78	2SC2785-HFE			
		<RESISTOR>			
R3802	1-249-381-11	CARBON	1K	5%	1/4W
R3803	1-249-381-11	CARBON	1K	5%	1/4W
R3804	1-215-444-00	METAL	9.1K	1%	1/4W
R3805	1-249-383-11	CARBON	1.5K	5%	1/4W
R3807	1-215-413-00	METAL	470	1%	1/4W
R3808	1-249-407-11	SOLID	150K	5%	1/4W
R3809	1-247-876-11	CARBON	75K	5%	1/4W
R3810	1-249-389-11	CARBON	4.7K	5%	1/4W
R3814	1-247-891-00	CARBON	330	5%	1/4W
R3823	1-249-431-11	CARBON	15	5%	1/4W
R3825	1-249-381-11	CARBON	1K	5%	1/4W
R3828	1-249-377-11	CARBON	0.47	5%	1/4W
R3839	1-249-393-11	CARBON	10K	5%	1/4W
R3845	1-249-389-11	CARBON	4.7K	5%	1/4W
R3846	1-249-381-11	CARBON	1K	5%	1/4W
R3847	1-249-441-11	CARBON	100	5%	1/4W
R3848	1-249-381-11	CARBON	1K	5%	1/4W
R3849	1-249-377-11	CARBON	0.47	5%	1/4W
R3852	1-247-807-31	CARBON	100K	5%	1/4W
R3854	1-249-393-11	CARBON	10K	5%	1/4W

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* A-1241-492-A F BOARD MOUNTED
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1-533-223-11 CLIP, FUSE
* 4-374-846-01 COVER, CAPACITOR, CAP TYPE

			<CAPACITOR>			
C654	⚠	1-117-703-11	CERAMIC	0.0047UF	99%	250V
C4601	⚠	1-104-708-11	MYLAR	0.47UF	20.00%	250V
C4602	⚠	1-109-835-11	MYLAR	0.68UF	20.00%	250V
			<CONNECTOR>			
CN4601		1-580-843-11	PIN, CONNECTOR (POWER)			
CN4602		1-580-843-11	PIN, CONNECTOR (POWER)			
CN4603		1-695-915-11	TAB (CONTACT)			

F H J

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.		PART NO.	DESCRIPTION			
			<FUSE>			
F4601	⚠	1-532-299-00	FUSE, TIME-LAG 5A/250V			
			<RESISTOR>			
R4601	⚠	1-202-719-00	SOLID	1M	10%	1/2W
			<TRANSFORMER>			
T4601	⚠	1-424-505-11	TRANSFORMER, LINE FILTER			
T4602	⚠	1-431-182-11	TRANSFORMER, LINE FILTER			
			<VARISTOR>			
VDR461		1-803-830-11	VARISTOR (ERZV14D621)			
**********						
	*	A-1377-009-A	H BOARD MOUNTED **********			
	*	4-055-304-01	HOLDER, LED			
	*	4-560-030-01	FILM, CONDUCTIVE			
			<CAPACITOR>			
C3900		1-136-153-00	FILM	0.01UF	5.00%	50V
C3902		1-136-153-00	FILM	0.01UF	5.00%	50V
C3904		1-104-664-11	ELECT	47UF	20.00%	25V
C3905		1-125-805-91	ELECT	4.7UF	20.00%	50V
C3906		1-125-805-91	ELECT	4.7UF	20.00%	50V
C3907		1-136-175-00	FILM	0.68UF	5.00%	50V
C3910		1-104-660-91	ELECT	47UF	20.00%	16V
C3911		1-104-660-91	ELECT	47UF	20.00%	16V
C3912		1-102-114-00	CERAMIC	470PF	10.00%	50V
C3913		1-126-960-11	ELECT	1UF	20.00%	50V
			<CONNECTOR>			
CN3601	*	1-580-844-11	PIN, CONNECTOR (POWER)			
CN3602	*	1-580-844-11	PIN, CONNECTOR (POWER)			
CN3901		1-564-507-21	PLUG, CONNECTOR 4P			
CN3902		1-564-509-11	PLUG, CONNECTOR 6P			
CN3903		1-564-507-11	PLUG, CONNECTOR 4P			
CN3904	*	1-564-512-11	PLUG, CONNECTOR 9P			
CN3905	*	1-564-512-11	PLUG, CONNECTOR 9P			
CN3906		1-564-506-11	PLUG, CONNECTOR 3P			
			<DIODE>			
D3900		8-719-070-16	NNCD9.1A-T1			
D3901		8-719-070-16	NNCD9.1A-T1			
D3905		8-719-070-16	NNCD9.1A-T1			
D3906		8-719-083-18	DIODE SPB-25MVWF			
D3907		8-719-070-16	NNCD9.1A-T1			
D3908		8-719-070-16	NNCD9.1A-T1			
			<IC>			
IC3901		8-759-180-30	UPD6124G-212			

REF NO.		PART NO.	DESCRIPTION			
			<JACK>			
J3901		1-750-264-11	JACK			
J3902		1-784-646-11	TERMINAL, S			
J3903		1-770-329-11	JACK, PIN 3P			
			<COIL>			
L3901		1-414-183-41	INDUCTOR	10UH		
L3902		1-414-183-41	INDUCTOR	10UH		
L3903		1-406-976-11	INDUCTOR	68UH		
			<TRANSISTOR>			
Q3901		8-729-030-02	DTC144ESA			
Q3902		8-729-030-02	DTC144ESA			
			<RESISTOR>			
R3900		1-247-891-00	CARBON	330	5%	1/4W
R3901		1-247-891-00	CARBON	330	5%	1/4W
R3902		1-247-804-11	CARBON	75	5%	1/4W
R3904		1-249-393-11	CARBON	10K	5%	1/4W
R3905		1-249-393-11	CARBON	10K	5%	1/4W
R3907		1-249-390-11	CARBON	5.6K	5%	1/4W
R3908		1-247-895-91	CARBON	470	5%	1/4W
R3909		1-249-381-11	CARBON	1K	5%	1/4W
R3910		1-249-384-11	CARBON	1.8K	5%	1/4W
R3911		1-247-891-00	CARBON	330	5%	1/4W
R3912		1-249-387-11	CARBON	3.3K	5%	1/4W
R3913		1-249-393-11	CARBON	10K	5%	1/4W
R3914		1-247-891-00	CARBON	330	5%	1/4W
R3915		1-249-393-11	CARBON	10K	5%	1/4W
R3916		1-247-871-91	CARBON	47	5%	1/4W
R3917		1-247-804-11	CARBON	75	5%	1/4W
R3918		1-247-887-00	CARBON	220	5%	1/4W
R3919		1-247-887-00	CARBON	220	5%	1/4W
R3920		1-249-441-11	CARBON	100	5%	1/4W
R3921		1-249-441-11	CARBON	100	5%	1/4W
R3922		1-249-385-11	CARBON	2.2K	5%	1/4W
			<SWITCH>			
S3601	⚠	1-571-433-21	SWITCH, PUSH (AC POWER)			
S3902		1-692-431-21	SWITCH, TACTILE			
S3903		1-692-431-21	SWITCH, TACTILE			
S3904		1-692-431-21	SWITCH, TACTILE			
S3905		1-692-431-21	SWITCH, TACTILE			
S3906		1-692-431-21	SWITCH, TACTILE			
S3907		1-692-431-21	SWITCH, TACTILE			
S3908		1-692-431-21	SWITCH, TACTILE			
**********						
	*	A-1388-326-A	J BOARD MOUNTED **********			
			<CAPACITOR>			
C2410		1-126-967-11	ELECT	47UF	20.00%	50V
C2411		1-126-967-11	ELECT	47UF	20.00%	50V
C2412		1-126-967-11	ELECT	47UF	20.00%	50V

J P2

REF NO.	PART NO.	DESCRIPTION			
C2413	1-102-112-00	CERAMIC	330PF	10.00%	50V
C2414	1-102-112-00	CERAMIC	330PF	10.00%	50V
C2418	1-126-960-11	ELECT	1UF	20.00%	50V
C2419	1-126-960-11	ELECT	1UF	20.00%	50V
		<CONNECTOR>			
CN2410	* 1-564-523-11	PLUG, CONNECTOR 8P			
CN3451	* 1-564-518-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D2410	8-719-070-16	NNCD9.1A-T1			
D2411	8-719-070-16	NNCD9.1A-T1			
D2412	8-719-070-16	NNCD9.1A-T1			
D2414	8-719-070-16	NNCD9.1A-T1			
D2415	8-719-070-16	NNCD9.1A-T1			
D3453	8-719-110-72	RD30ESB2			
D3454	8-719-110-72	RD30ESB2			
		<JACK>			
J2410	1-784-623-11	BLOCK, PIN JACK 5P			
J3451	1-694-467-11	TERMINAL, PUSH (2P)			
		<RESISTOR>			
R2410	1-247-804-11	CARBON	75	5%	1/4W
R2411	1-247-804-11	CARBON	75	5%	1/4W
R2412	1-247-804-11	CARBON	75	5%	1/4W
R2414	1-247-815-91	CARBON	220K	5%	1/4W
R2415	1-249-441-11	CARBON	100	5%	1/4W
R2417	1-247-815-91	CARBON	220K	5%	1/4W
R2418	1-249-441-11	CARBON	100	5%	1/4W
R2419	1-247-887-00	CARBON	220	5%	1/4W
R2420	1-247-887-00	CARBON	220	5%	1/4W
R2421	1-247-887-00	CARBON	220	5%	1/4W

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	* A-1190-394-A	P2 BOARD MOUNTED			
		**********			
		<CAPACITOR>			
C4300	1-164-346-11	CERAMIC CHIP	1UF		16V
C4301	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4302	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C4303	1-126-960-11	ELECT	1UF	20.00%	50V
C4304	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4312	1-104-660-91	ELECT	47UF	20.00%	16V
C4314	1-125-797-91	ELECT	10UF	20.00%	50V
C4315	1-126-934-11	ELECT	220UF	20.00%	16V
C4317	1-104-660-91	ELECT	47UF	20.00%	16V
C4318	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4319	1-163-233-91	CERAMIC CHIP	18PF	5.00%	50V
C4320	1-163-233-91	CERAMIC CHIP	18PF	5.00%	50V
C4321	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4322	1-126-957-11	ELECT	0.22UF	20.00%	50V
C4323	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C4324	1-125-805-91	ELECT	4.7UF	20.00%	50V
C4325	1-104-660-91	ELECT	47UF	20.00%	16V

REF NO.	PART NO.	DESCRIPTION			
C4326	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4327	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C4329	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4330	1-125-805-91	ELECT	4.7UF	20.00%	50V
C4331	1-125-797-91	ELECT	10UF	20.00%	50V
C4332	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4333	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4334	1-126-960-11	ELECT	1UF	20.00%	50V
C4335	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C4336	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4337	1-164-346-11	CERAMIC CHIP	1UF		16V
C4338	1-164-346-11	CERAMIC CHIP	1UF		16V
C4339	1-164-346-11	CERAMIC CHIP	1UF		16V
C4340	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4341	1-104-665-11	ELECT	100UF	20.00%	10V
C4347	1-104-665-11	ELECT	100UF	20.00%	10V
C4348	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4349	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C4350	1-125-797-91	ELECT	10UF	20.00%	50V
C4352	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C4353	1-104-665-11	ELECT	100UF	20.00%	10V
C4355	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4356	1-164-346-11	CERAMIC CHIP	1UF		16V
C4357	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4359	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4362	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C4363	1-163-237-11	CERAMIC CHIP	27PF	5.00%	50V
C4364	1-104-665-11	ELECT	100UF	20.00%	10V
C4365	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4366	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C4367	1-126-960-11	ELECT	1UF	20.00%	50V
C4371	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4372	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4377	1-104-665-11	ELECT	100UF	20.00%	10V
C4380	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4394	1-104-660-91	ELECT	47UF	20.00%	16V
C4396	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4397	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4398	1-125-797-91	ELECT	10UF	20.00%	50V
C4399	1-125-797-91	ELECT	10UF	20.00%	50V
C4554	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C4613	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4614	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C4615	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C4617	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C4618	1-126-967-11	ELECT	47UF	20.00%	50V
C4619	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4620	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4622	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C4623	1-163-255-11	CERAMIC CHIP	150PF	5.00%	50V
C4624	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C4625	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4626	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C4628	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C4629	1-163-255-11	CERAMIC CHIP	150PF	5.00%	50V
C4630	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C4643	1-126-933-11	ELECT	100UF	20.00%	16V
C4644	1-165-319-11	CERAMIC CHIP	0.1UF		50V
		<CONNECTOR>			
CN4301	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P			
CN4302	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P			

REF NO.	PART NO.	DESCRIPTION	REMARK
CN4501 *	1-564-511-11	PLUG, CONNECTOR 8P	
CN4502 *	1-564-508-11	PLUG, CONNECTOR 5P	
		<DIODE>	
D4501	8-719-158-35	RD9.1S-B	
		<FERRITE BEAD>	
FB4301	1-410-397-21	FERRITE 1.1UH	
		<FILTER>	
FL4301	1-236-728-41	ENCAPSULATED COMPONENT	
		<IC>	
IC4301	8-759-655-57	SDA9288XE-B0121	
IC4302	8-759-568-62	BA7606F-E2	
IC4303	8-752-090-41	CXA2139S	
IC4502	8-759-439-64	HEF4053BT	
IC4503	8-759-439-64	HEF4053BT	
		<CHIP CONDUCTOR>	
JR4300	1-216-295-91	SHORT 0	
JR4301	1-216-295-91	SHORT 0	
JR4305	1-216-295-91	SHORT 0	
JR4500	1-216-295-91	SHORT 0	
JR4502	1-216-295-91	SHORT 0	
JR4503	1-216-295-91	SHORT 0	
JR4505	1-216-295-91	SHORT 0	
		<COIL>	
L4302	1-412-537-31	INDUCTOR 100UH	
L4304	1-414-856-11	INDUCTOR 10UH	
L4305	1-414-856-11	INDUCTOR 10UH	
L4306	1-414-856-11	INDUCTOR 10UH	
L4307	1-408-412-00	INDUCTOR 18UH	
L4308	1-414-187-11	INDUCTOR 47UH	
L4309	1-414-856-11	INDUCTOR 10UH	
L4310	1-414-187-11	INDUCTOR 47UH	
L4311	1-414-856-11	INDUCTOR 10UH	
L4312	1-414-856-11	INDUCTOR 10UH	
L4315	1-414-856-11	INDUCTOR 10UH	
L4316	1-414-856-11	INDUCTOR 10UH	
L4317	1-414-856-11	INDUCTOR 10UH	
L4501	1-414-856-11	INDUCTOR 10UH	
L4506	1-414-857-11	INDUCTOR 100UH	
L4507	1-414-187-11	INDUCTOR 47UH	
L4508	1-414-187-11	INDUCTOR 47UH	
L4509	1-414-857-11	INDUCTOR 100UH	
L4510	1-414-187-11	INDUCTOR 47UH	
L4511	1-414-187-11	INDUCTOR 47UH	
		<TRANSISTOR>	
Q4301	8-729-230-49	2SC2712-YG	
Q4302	8-729-216-22	2SA1162-G	
Q4303	8-729-424-59	UN2212	
Q4304	8-729-027-43	DTC114EKA-T146	
Q4305	8-729-027-43	DTC114EKA-T146	
Q4306	8-729-230-49	2SC2712-YG	
Q4307	8-729-027-43	DTC114EKA-T146	
Q4313	8-729-216-22	2SA1162-G	
Q4314	8-729-216-22	2SA1162-G	
Q4315	8-729-216-22	2SA1162-G	
Q4327	8-729-216-22	2SA1162-G	
Q4329	8-729-230-49	2SC2712-YG	
Q4362	8-729-216-22	2SA1162-G	
Q4363	8-729-216-22	2SA1162-G	
Q4364	8-729-216-22	2SA1162-G	
Q4365	8-729-230-49	2SC2712-YG	
Q4366	8-729-230-49	2SC2712-YG	
Q4368	8-729-230-49	2SC2712-YG	
Q4369	8-729-230-49	2SC2712-YG	
Q4371	8-729-230-49	2SC2712-YG	
Q4375	8-729-230-49	2SC2712-YG	
Q4501	8-729-230-49	2SC2712-YG	
Q4502	8-729-216-22	2SA1162-G	
Q4503	8-729-230-49	2SC2712-YG	
Q4505	8-729-230-49	2SC2712-YG	
Q4507	8-729-216-22	2SA1162-G	
Q4509	8-729-230-49	2SC2712-YG	
Q4510	8-729-230-49	2SC2712-YG	
Q4511	8-729-216-22	2SA1162-G	
Q4514	8-729-230-49	2SC2712-YG	
Q4515	8-729-230-49	2SC2712-YG	
Q4516	8-729-216-22	2SA1162-G	
Q4520	8-729-230-49	2SC2712-YG	
Q4522	8-729-230-49	2SC2712-YG	
Q4523	8-729-216-22	2SA1162-G	
		<RESISTOR>	
R4300	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R4301	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R4302	1-216-053-00	RES-CHIP 1.5K 5%	1/10W
R4304	1-216-089-91	RES-CHIP 47K 5%	1/10W
R4305	1-216-025-11	RES-CHIP 100 5%	1/10W
R4306	1-216-053-00	RES-CHIP 1.5K 5%	1/10W
R4307	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R4308	1-216-081-00	RES-CHIP 22K 5%	1/10W
R4309	1-216-067-00	RES-CHIP 5.6K 5%	1/10W
R4310	1-164-346-11	CERAMIC CHIP 1UF	16V
R4311	1-216-025-11	RES-CHIP 100 5%	1/10W
R4312	1-216-025-11	RES-CHIP 100 5%	1/10W
R4313	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4314	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4315	1-216-049-11	RES-CHIP 1K 5%	1/10W
R4316	1-216-025-11	RES-CHIP 100 5%	1/10W
R4317	1-216-025-11	RES-CHIP 100 5%	1/10W
R4319	1-216-045-00	RES-CHIP 680 5%	1/10W
R4320	1-216-081-00	RES-CHIP 22K 5%	1/10W
R4321	1-216-045-00	RES-CHIP 680 5%	1/10W
R4326	1-216-053-00	RES-CHIP 1.5K 5%	1/10W
R4327	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R4328	1-216-063-91	RES-CHIP 3.9K 5%	1/10W
R4330	1-216-053-00	RES-CHIP 1.5K 5%	1/10W
R4332	1-216-089-91	RES-CHIP 47K 5%	1/10W
R4333	1-216-025-11	RES-CHIP 100 5%	1/10W
R4334	1-216-025-11	RES-CHIP 100 5%	1/10W
R4335	1-216-025-11	RES-CHIP 100 5%	1/10W
R4336	1-216-041-00	RES-CHIP 470 5%	1/10W
R4337	1-216-041-00	RES-CHIP 470 5%	1/10W

P2 VM1

REF NO.	PART NO.	DESCRIPTION		REMARK	
R4338	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4339	1-216-041-00	RES-CHIP	470	5%	1/10W
R4340	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4341	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4344	1-216-295-91	SHORT	0		
R4345	1-216-295-91	SHORT	0		
R4346	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4347	1-216-295-91	SHORT	0		
R4348	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4349	1-216-025-11	RES-CHIP	100	5%	1/10W
R4350	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4351	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4352	1-216-041-00	RES-CHIP	470	5%	1/10W
R4353	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4354	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4355	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4356	1-208-778-11	METAL CHIP	680	0.5%	1/10W
R4358	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4376	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R4377	1-216-047-91	RES-CHIP	820	5%	1/10W
R4378	1-216-047-91	RES-CHIP	820	5%	1/10W
R4379	1-208-780-11	METAL CHIP	820	0.5%	1/10W
R4380	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R4382	1-216-025-11	RES-CHIP	100	5%	1/10W
R4383	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R4384	1-216-079-00	RES-CHIP	18K	5%	1/10W
R4385	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4386	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4387	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4388	1-216-025-11	RES-CHIP	100	5%	1/10W
R4389	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4390	1-216-025-11	RES-CHIP	100	5%	1/10W
R4391	1-216-025-11	RES-CHIP	100	5%	1/10W
R4392	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4393	1-216-025-11	RES-CHIP	100	5%	1/10W
R4394	1-216-075-00	RES-CHIP	12K	5%	1/10W
R4395	1-216-025-11	RES-CHIP	100	5%	1/10W
R4396	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4398	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R4401	1-216-295-91	SHORT	0		
R4403	1-216-025-11	RES-CHIP	100	5%	1/10W
R4408	1-216-041-00	RES-CHIP	470	5%	1/10W
R4414	1-216-025-11	RES-CHIP	100	5%	1/10W
R4416	1-216-041-00	RES-CHIP	470	5%	1/10W
R4417	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4434	1-216-045-00	RES-CHIP	680	5%	1/10W
R4435	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4506	1-216-025-11	RES-CHIP	100	5%	1/10W
R4507	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4508	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4511	1-216-033-00	RES-CHIP	220	5%	1/10W
R4512	1-216-005-00	RES-CHIP	15	5%	1/10W
R4515	1-216-041-00	RES-CHIP	470	5%	1/10W
R4516	1-216-025-11	RES-CHIP	100	5%	1/10W
R4517	1-216-075-00	RES-CHIP	12K	5%	1/10W
R4520	1-216-079-00	RES-CHIP	18K	5%	1/10W
R4522	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4523	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4528	1-216-033-00	RES-CHIP	220	5%	1/10W
R4529	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R4531	1-216-045-00	RES-CHIP	680	5%	1/10W
R4537	1-216-041-00	RES-CHIP	470	5%	1/10W
R4538	1-216-041-00	RES-CHIP	470	5%	1/10W
R4540	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4541	1-216-041-00	RES-CHIP	470	5%	1/10W
R4542	1-216-041-00	RES-CHIP	470	5%	1/10W
R4543	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4545	1-216-041-00	RES-CHIP	470	5%	1/10W
R4547	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4548	1-216-025-11	RES-CHIP	100	5%	1/10W
R4549	1-216-075-00	RES-CHIP	12K	5%	1/10W
R4551	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4552	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4553	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4554	1-216-033-00	RES-CHIP	220	5%	1/10W
R4556	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4559	1-216-041-00	RES-CHIP	470	5%	1/10W
R4560	1-216-041-00	RES-CHIP	470	5%	1/10W
R4561	1-216-041-00	RES-CHIP	470	5%	1/10W
R4562	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4563	1-216-041-00	RES-CHIP	470	5%	1/10W
R4566	1-216-041-00	RES-CHIP	470	5%	1/10W
R4567	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4568	1-216-041-00	RES-CHIP	470	5%	1/10W
R4569	1-216-049-11	RES-CHIP	1K	5%	1/10W

<CRYSTAL>

X4301	1-781-134-21	VIBRATOR, CRYSTAL			
X4302	1-781-132-21	VIBRATOR, CRYSTAL			
X4303	1-760-095-21	VIBRATOR, CRYSTAL			

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*	A-1342-613-A	VM1 BOARD MOUNTED			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			

<CAPACITOR>

C5900	1-102-115-00	CERAMIC	560PF	10.00%	50V
C5902	1-104-661-91	ELECT	330UF	20.00%	16V
C5903	1-161-830-00	CERAMIC	0.0047UF		500V
C5905	1-126-935-11	ELECT	470UF	20.00%	10V
C5906	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5907	1-107-638-11	ELECT	33UF	20.00%	160V
C5908	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C5909	1-126-933-11	ELECT	100UF	20.00%	16V
C5910	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5911	1-107-949-11	ELECT	2.2UF	20.00%	160V
C5912	1-104-999-11	MYLAR	0.1UF	10.00%	200V
C5913	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5914	1-126-933-11	ELECT	100UF	20.00%	16V
C5916	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5917	1-126-935-11	ELECT	470UF	20.00%	10V
C5918	1-102-244-00	CERAMIC	220PF	10.00%	500V
C5919	1-136-165-00	FILM	0.1UF	5.00%	50V

<CONNECTOR>

CN2801		1-564-506-11	PLUG, CONNECTOR 3P
CN5901	*	1-564-510-11	PLUG, CONNECTOR 7P
CN5904	*	1-770-723-11	CONNECTOR, BOARD TO BOARD 8P

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION			REMARK
		<DIODE>			
D5901	8-719-911-19	1SS119-25			
D5901	8-719-991-33	1SS133T-77			
D5902	8-719-110-88	RD39ES-B2			
D5903	8-719-911-19	1SS119-25			
D5903	8-719-991-33	1SS133T-77			
D5904	8-719-110-88	RD39ES-B2			
D5905	8-719-911-19	1SS119-25			
D5905	8-719-991-33	1SS133T-77			
D5906	1-247-881-00	CARBON	120	5%	1/4W
D5907	1-247-881-00	CARBON	120	5%	1/4W
		<COIL>			
L5901	1-414-187-11	INDUCTOR	47UH		
		<TRANSISTOR>			
Q5901	8-729-230-45	2SC2458-YGR			
Q5902	8-729-809-26	2SA1606-E			
Q5903	8-729-230-45	2SC2458-YGR			
Q5904	8-729-119-76	2SA1175-HFE			
Q5905	8-729-230-45	2SC2458-YGR			
Q5906	8-729-809-29	2SC4159-E			
Q5907	8-729-230-45	2SC2458-YGR			
		<RESISTOR>			
R5901	1-247-871-91	CARBON	47	5%	1/4W
R5902	1-249-414-11	CARBON	560	5%	1/4W
R5903	1-247-734-11	CARBON	39	5%	1/2W
R5904	1-247-891-00	CARBON	330	5%	1/4W
R5905	1-249-381-11	CARBON	1K	5%	1/4W
R5906	1-249-381-11	CARBON	1K	5%	1/4W
R5907	1-249-381-11	CARBON	1K	5%	1/4W
R5908	1-249-383-11	CARBON	1.5	5%	1/4W
R5909	1-247-887-00	CARBON	220	5%	1/4W
R5910	1-249-439-11	CARBON	68	5%	1/4W
R5911	1-249-403-11	CARBON	68K	5%	1/4W
R5912	1-249-401-11	CARBON	47K	5%	1/4W
R5914	1-249-439-11	CARBON	68	5%	1/4W
R5915	1-249-393-11	CARBON	10K	5%	1/4W
R5916	1-249-383-11	CARBON	1.5K	5%	1/4W
R5917	1-247-901-11	CARBON	820	5%	1/4W
R5918	1-249-393-11	CARBON	10K	5%	1/4W
R5919	1-249-417-11	CARBON	1K	5%	1/4W
R5920	1-249-403-11	CARBON	68K	5%	1/4W
R5921	1-216-476-11	METAL OXIDE	180	5%	3W
R5922	1-247-897-11	CARBON	560	5%	1/4W
R5923	1-249-383-11	CARBON	1.5	5%	1/4W
R5925	1-249-400-11	CARBON	39	5%	1/4W
R5927	1-247-901-11	CARBON	820	5%	1/4W
R5929	1-215-880-00	METAL OXIDE	10	5%	2W

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REF NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	1-529-190-11	SPEAKER (16CM) (KV-XA29M67/XA29M97)	
	1-544-795-11	SPEAKER (16CM) (KV-XA34M67/XA34M97)	
⚠	1-424-742-11	COIL, DEGAUSSING (KV-XA29M67/XA29M97)	
⚠	1-419-293-21	COIL, DEGAUSSING (KV-XA34M67/XA34M97)	
	1-452-896-61	COIL, ROTATION (KV-XA29M67/XA29M97)	
	1-419-603-11	COIL, ROTATION (KV-XA34M67/XA34M97)	
	1-462-092-00	CIRCULAR DISC MAGNET B	
	1-452-032-00	MAGNET,DISC	
	1-529-190-11	SPEAKER (5CM) (KV-XA29M67/XA29M97)	
	1-544-895-11	SPEAKER (5CM) (KV-XA34M67/XA34M97)	
	1-529-563-11	SPEAKER (15X6.5CM)	
	1-251-658-21	SPLITTER RF	
	*1-555-110-00	P-P CABLE	
⚠	1-782-452-11	CORD, POWER (WITH CONNECTOR)	
	1-416-871-11	COIL, LANDING CORRECTION (KV-XA34M67/XA34M97)	
	8-453-011-11	NA299-M	
⚠	8-735-056-05	PICTURE TUBE (M68LNH070X) (KV-XA29M67)	
⚠	8-735-057-05	PICTURE TUBE (M68LNH070X) (KV-XA29M97)	
⚠	8-735-077-05	PICTURE TUBE (A80LPD90X) (KV-XA34M67)	
⚠	8-735-076-05	PICTURE TUBE (A80LPD90X) (KV-XA34M97)	
⚠	8-451-494-31	DEFLECTION YOKE (Y29RSA-S (KV-XA29M67/XA29M97)	
⚠	8-451-499-31	DEFLECTION YOKE (Y34RSA-Y) (KV-XA34M67/XA34M97)	

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ACCESSORIES AND PACKING MATERIALS
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	3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)
	*4-065-594-01	BAG, PROTECTION
	*4-081-727-01	INDIVIDUAL CARTON
	*4-081-728-01	CUSHION(LOWER)(ASSY)
	*4-081-729-01	CUSHION(UPPER)(ASSY)
	4-083-901-11	MANUAL, INSTRUCTION
	4-392-003-31	BAND, HOLD
	4-392-004-21	CLIP

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REMOTE COMMANDER
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	1-418-040-12	REMOTE COMMANDER (RM-953)
	4-978-977-01	BATTERY COVER REMOTE COMMANDER

Sony Corporation
Sony Technology Malaysia Sdn. Bhd.
Visual Entertainment General Area

9-872-253-01

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